

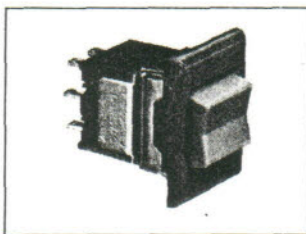
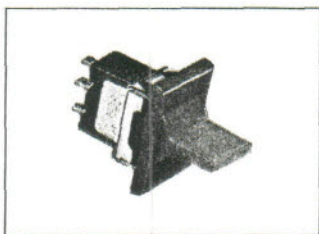
MS1001 CD4093BCN quad 2 I/P Nand Schm

CD4093BCN

①

MS1002 PCB (makes 4 PCB's)

143-302

Nikkai M Series

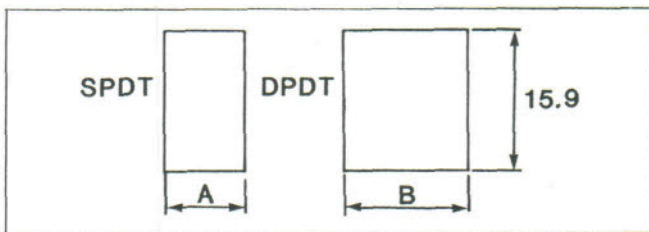
Rocker and paddle switches with snap-in panel mounting, stocked as switch units with bezels and actuators held as separate items.

Solder lug terminals. Silver contacts.

Ratings 6A 125V AC 30V DC.

DIMENSIONS (mm) (including bezel and actuator)

	L	W	H (inc. tags)
Rocker	22	16	26
Paddle	22	16	35



A = 12.5 x n without bezel

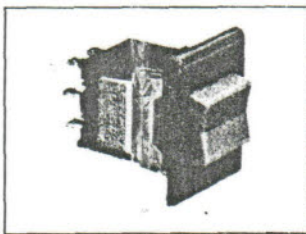
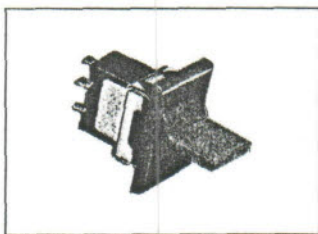
A = 12.5 + (15.6 (n-1)) with bezel

B = 13.1 x n without bezel

B = 13.1 + (15.6 (n-1)) with bezel

n = No. of switches

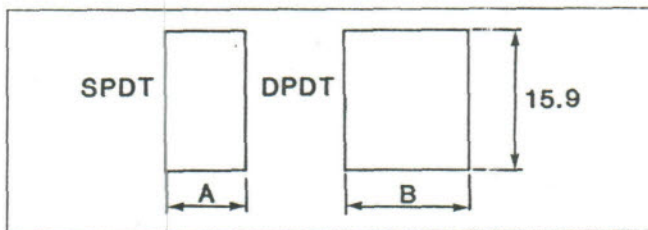
Type No.	Stock No.	Description	Prices £ each		
			1+	50+	100+
M2012TJW01	77389H	SPDT 2 pos	1.830	1.440	1.150
M2022TJW01	77390X	DPDT 2 pos	2.240	1.770	1.420
M2023TJW01	77391R	DPDT 3 pos (centre off)	2.710	2.140	1.710
M2025TJW01	77393E	DPDT 2 pos (momentary)	2.710	2.140	1.710
M2028TJW01	77394C	DPDT 3 pos (centre off momentary both ways)	2.920	2.300	1.840
ROCKER ACTUATOR					
AT450 Black	77395A		0.190	-	-
AT450 Red	77396X		0.190	-	-
AT450 White	77397H		0.190	-	-
PADDLE ACTUATOR					
AT451 Black	77398F		0.190	-	-
AT451 Red	77399D		0.190	-	-
AT451 White	77400F		0.190	-	-
BEZELS					
AT207 Black	77402B	Bezel for Rocker/Paddle	0.220	-	-
AT208 Black	77403X	Bezel & LED-Rocker/Paddle	0.760	0.760	0.760

Nikkai M Series

Rocker and paddle switches with snap-in panel mounting, stocked as switch units with bezels and actuators held as separate items.
Solder lug terminals. Silver contacts.
Ratings 6A 125V AC 30V DC.

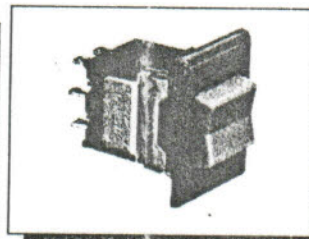
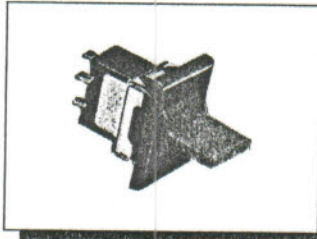
DIMENSIONS (mm) (including bezel and actuator)

	L	W	H (inc. tags)
Rocker	22	16	26
Paddle	22	16	35



A = 12.5 x n without bezel
 A = 12.5 + (15.6 (n-1)) with bezel
 B = 13.1 x n without bezel
 B = 13.1 + (15.6 (n-1)) with bezel
 n = No. of switches

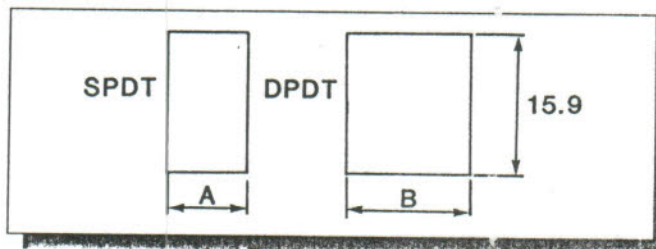
Type No.	Stock No.	Description	Prices £ each		
			1+	50+	100+
M2012TJW01	77389H	SPDT 2 pos	1.830	1.440	1.150
M2022TJW01	77390X	DPDT 2 pos	2.240	1.770	1.420
M2023TJW01	77391R	DPDT 3 pos (centre off)	2.710	2.140	1.710
M2025TJW01	77393E	DPDT 2 pos (momentary)	2.710	2.140	1.710
M2028TJW01	77394C	DPDT 3 pos (centre off momentary both ways)	2.520	2.300	1.840
ROCKER ACTUATOR					
AT450 Black	77395A		0.190	-	-
AT450 Red	77396X		0.190	-	-
AT450 White	77397H		0.190	-	-
PADDLE ACTUATOR					
AT451 Black	77398F		0.190	-	-
AT451 Red	77399D		0.190	-	-
AT451 White	77400F		0.190	-	-
BEZELS					
AT207 Black	77402B	Bezel for Rocker/Paddle	0.290	-	-
AT208 Black	77403X	Bezel & LED-Rocker/Paddle	0.790	0.760	0.760

Nikkai M Series

Rocker and paddle switches with snap-in panel mounting, stocked as switch units with bezels and actuators held as separate items.
Solder lug terminals. Silver contacts.
Ratings 6A 125V AC 30V DC.

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	L	W	H (inc. tags)
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Paddle	22	16	35



A = 12.5 x n without bezel
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B = 13.1 x n without bezel
B = 13.1 + (15.6 (n-1)) with bezel
n = No. of switches

Type No.	Stock No.	Description	Prices £ each		
			1+	50+	100+
M2012TJW01	77389H	SPDT 2 pos	1.830	1.440	1.150
M2022TJW01	77390X	DPDT 2 pos	2.240	1.770	1.420
M2023TJW01	77391R	DPDT 3 pos (centre off)	2.710	2.140	1.710
M2025TJW01	77393E	DPDT 2 pos (momentary)	2.710	2.140	1.710
M2028TJW01	77394C	DPDT 3 pos (centre off momentary both ways)	2.920	2.300	1.840
ROCKER ACTUATOR					
AT450 Black	77395A		0.140	-	-
AT450 Red	77396X		0.150	-	-
AT450 White	77397H		0.190	-	-
PADDLE ACTUATOR					
AT451 Black	77398F		0.190	-	-
AT451 Red	77399D		0.150	-	-
AT451 White	77400F		0.140	-	-
BEZELS					
AT207 Black	77402B	Bezel for Rocker/Paddle	0.210	-	-
AT208 Black	77403X	Bezel & LED-Rocker/Paddle	0.710	0.760	0.760

MS1006 Transistor BD131

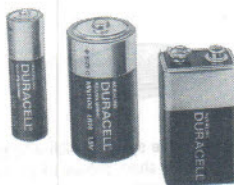
BD131

MS1007 Transistor BC107

BC107

Alkaline Manganese - Standard

DURACELL

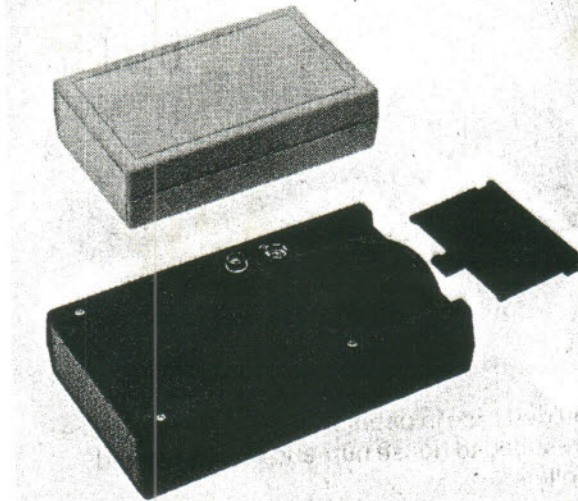


This system offers long shelf life and corrosion-free construction together with high reliability. The range includes the main international sizes and are physically interchangeable with the most popular sizes of ordinary batteries.

Voltage	Can Style	Max. Dimensions		Capacity mAh	● Standard Pack Qty.	● Small Pack Qty.	Order Code
		L	Dia				
1.5	AAA	44.5	10.5	800	100	10	MN2400
1.5	N	30.2	12.0	800	50	10	MN9100
1.5	AA	50.5	14.5	2250	100	10	MN1500
1.5	C	50.0	26.2	7000	50	10	MN1400
1.5	D	61.5	34.2	15000	50	10	MN1300
1.5	D	61.5	34.2	15000	—	—	MN1300T2◆
9.0	PP3	48.5 × 26.5 × 17.5		500	50	10	MN1604

● For convenience of handling we recommend small and standard pack multiples, but we will supply to any quantity required.

style 2



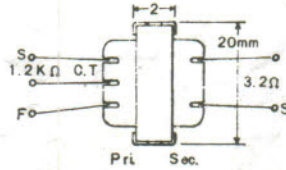
A range of cases moulded in A.B.S. with a textured finish. The front panel is moulded in A.B.S. and is removable to aid machining and assembly. The integral battery compartment is of sufficient size to contain a PP3 type battery, access is via an external removable cover. These cases are ideal to house hand-held or transportable instruments, monitors, receivers, etc. Size 1 is coloured beige, size 2 and 3 are coloured black. Sizes 1 and 2 have detachable end panels. All are supplied with a PP3 battery connector.

size	L.	external W.	D.	usable panel area	panel location	panel thickness	max. p.c.b. size
1	96.5	61	25.4	55.3 × 22.9	end	1.6	54 × 52
2	114	61	22.7	61 × 19	end	1.6	72 × 52
3	146	91.5	30.5	133 × 78.5	top	1.6	90 × 67

S.S.M. = 1

size	stock no.	price each	
		1-24	25-49
1	502-095	£3.57	£3.25
2	506-047	£4.74	£4.40
3	506-025	£4.82	£4.48

LT.700
PRINTED CIRCUIT TYPE
TRANSISTOR OUTPUT TRANSFORMER
Impedance Ratio: $1.2K\Omega$ CT : 3.2Ω

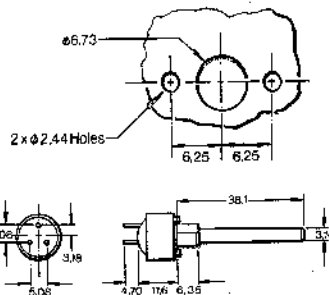


Bottom View

Eagle International®

Printed in Taiwan

MS1011 Stimulator Leads

Potentiometers - type LC1BICC-Citec 

A range of cermet potentiometers offering excellent electrical and thermal stability with high reliability, low noise and long life. Housed in a 13 mm diameter alloy case and supplied with nut and washer.

~ Please note product will be called type LC in the future.

Law: Linear

Tolerance: 20%

Rated Dissipation @ 20°C: 1W

Isolation: 450V dc

Electrical Rotation: 260°

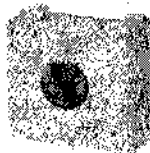
Mechanical Rotation: 295° ±5°

Insulation Resistance: >5G ohms

Voltage Proof: 630V ac peak

VALUE	UNIT QTY	ORDER CODE
100Ω	1	90-26342E
220Ω	1	90-26343A
470Ω	1	90-26344H
1K	1	90-26345D
2K2	1	90-26346L
4K7	1	90-26347G
10K	1	90-26348C
22K	1	90-26349K
47K	1	90-26350H
100K	1	90-26351D
220K	1	90-26352L
470K	1	90-26353G
1M	1	90-26354C

9/195

$\frac{3}{8}$ " square cermet single turn

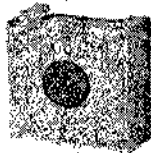
63P		63X	
Top adjust		Side Adjust	
VALUE	ORDER CODE	VALUE	ORDER CODE
100R	90-35936A	100R	90-35950D
200R	90-35937H	200R	90-35951L
500R	90-35938D	500R	90-35952G
1K	90-35939L	1K	90-35953C
2K	90-35940J	2K	90-35954K
5K	90-35941E	5K	90-35955F
10K	90-35942A	10K	90-35956B
20K	90-35943H	20K	90-35957J
50K	90-35944D	50K	90-35958E
100K	90-35945L	100K	90-35959A
200K	90-35946G	200K	90-35960K
500K	90-35947C	500K	90-35961F
1M	90-35948K	1M	90-35962B
2M	90-35949F	2M	90-35963J

90-35948F

MS1014 100K Pot (CT76-10 Top Adj)

90-35945L

$\frac{3}{8}$ " square cermet single turn

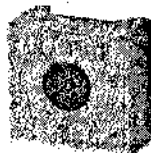


63P		63X	
Top adjust		Side Adjust	
VALUE	ORDER CODE	VALUE	ORDER CODE
100R	90-35936A	100R	90-35950D
200R	90-35937H	200R	90-35951L
500R	90-35938D	500R	90-35952G
1K	90-35939L	1K	90-35953C
2K	90-35940J	2K	90-35954K
5K	90-35941E	5K	90-35955F
10K	90-35942A	10K	90-35956B
20K	90-35943H	20K	90-35957J
50K	90-35944D	50K	90-35958E
100K	90-35945L	100K	90-35959A
200K	90-35946G	200K	90-35960K
500K	90-35947C	500K	90-35961F
1M	90-35948K	1M	90-35962B
2M	90-35949F	2M	90-35963J

90/359

MS1015 500R Pot (CT76-10 Top Adj)

90-35938D

 $\frac{3}{8}$ " square cermet single turn

63P		63X	
Top adjust		Side Adjust	
VALUE	ORDER CODE	VALUE	ORDER CODE
100R	90-35936A	100R	90-35950D
200R	90-35937H	200R	90-35951L
500R	90-35938D	500R	90-35952G
1K	90-35939L	1K	90-35953C
2K	90-35940J	2K	90-35954K
5K	90-35941E	5K	90-35955F
10K	90-35942A	10K	90-35956B
20K	90-35943H	20K	90-35957J
50K	90-35944D	50K	90-35958E
100K	90-35945L	100K	90-35959A
200K	90-35946G	200K	90-35960K
500K	90-35947C	500K	90-35961F
1M	90-35948K	1M	90-35962B
2M	90-35949F	2M	90-35963J

**Carbon film resistors
CFR 25 0-33W 5%**

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is banded.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-500 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497L
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503K
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485S	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1017 120R CFR 0.33W 5%

90-21430C

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

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Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6,4 x 2,3 mm: Leads 0,6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497I
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503I
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

500-90

MS1018 1K CFR 0.33W 5%

90-21452G

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

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Tolerance: 5%

Body: 6.4 x 2.3 mm. Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451I	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474I	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497J
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457I	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503J
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439I	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445I	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1019 560R CFR 0.33W 5%

90-21446G

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is banded.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.1 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497L
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503B
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509I
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1020 100K CFR 0.33W 5%

90-21500A

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is bandoliered.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

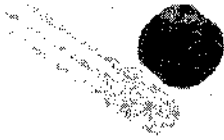
Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497I
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498C
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503I
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509I
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

2108

Tri colour LED
5 mm T1 $\frac{3}{4}$

Liton



Red and green L.E.D.s connected in common cathode configuration to provide red, green or yellow. Device is white diffused when not on and thus provides 4 states. Clip and ring sold separately.

Red Indicator 1
Common Cathode 2
Green Indicator 3

Length: 8.6 mm
Diameter: 5.0 mm
Pitch: 2.5 mm
If Typ.: 20mA
V_F Typ.: 2.1V Max 2.8V
V_R Max: 5V
Viewing Angle: $\pm 35^\circ$

LETON TYPE	INTENSITY MCD	WAVE LENGTH NM	UNIT QTY	ORDER CODE
LTL52RG	RED 1.1 GREEN 2.5	RED 697 GREEN 565	5	257-36890L
LTL001B	Clip + Ring		5	257-36888b

2006

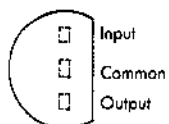
MS1022 L.E.D. Clip & Ring LTLO01B

257-36383B

**100mA • UA 78L fixed voltage
regulators • positive**

Fairchild

Top view



The UA 78L series of three terminal positive voltage regulators offer three voltage levels: +5V, +12V and +15V with a maximum output current of 100mA, subject to adequate heat sinking. This range offers thermal overload protection, short circuit current limiting.

Operating Temperature: 0°C to +125°C
TO92 plastic case

VOLTAGE	UNIT QTY	ORDER CODE
+5V	4	253-25219C
+12V	4	253-25220D
+15V	4	253-25221A

H/26

BZX79 series

Supplied to RS by Mullard

500 mW

A range of silicon planar zener diodes intended for use as low voltage stabilizers or voltage references. DO-35 envelopes, $\pm 5\%$ tolerance.

technical specification

Maximum power dissipation (If leads are kept at 50 °C at 8 mm from body)	500 mW
Non-repetitive peak reverse power dissipation	30 W (max.)
Maximum junction temp $V_Z < 3$ V	150 °C
$V_Z \geq 3$ V	200 °C
Thermal resistance from junction to tie point	0.30 °C/mW
θ_{JA} for p.c.b. mounting	
< 50 mm ² Cu 310 °C to 380 °C/W for 5 to 25 mm leads	
> 100 mm ² Cu 275 °C to 340 °C/W for 5 to 25 mm leads	

Zener voltage V_Z vs. Zener current I_Z			
V_Z (max.)	Temp. (°C)	I_Z (mA)	V_Z (min.)
2.4	100	1.0	283-579
2.7	100	2.0	283-688
3.0	85	2.1	283-582
3.3	85	2.4	283-685
3.6	85	2.4	283-819
3.9	85	2.5	283-921
4.2	85	2.5	283-837
4.7	80	1.0	283-683
5.1	80	0.8	283-653
5.6	40	1.2	283-685
6.2	10	2.3	283-671
6.8	15	3.0	283-687
7.5	15	3.0	283-883
8.2	15	5.0	283-780
9.1	15	5.5	283-716
10	20	5.4	283-722
12	25	5.4	283-753
15	30	11.4	283-744
18	45	14.4	283-750
22	50	12.4	283-766
27	60	23.4	283-772
33	60	29.7	283-788
39	130	36.4	283-784
47	170	46.1	283-801
50	200	57.8	283-817
60	240	71.7	283-823
75	250	84.2	283-839

BZX55 Series - 500mW - 5% - D035 Glass Package

ITT Semiconductors

Available to CECC 50-005-005

Type No.	Stock No.	V _Z (V)	Package	Temp. (°C)
BZX55C0.10	40160H	0.1	DO-35	100
BZX55C0.20	40173F	0.2	DO-35	100
BZX55C0.30	40170K	0.3	DO-35	100
BZX55C0.40	40177R	0.4	DO-35	100
BZX55C0.50	50183H	0.5	DO-35	100
BZX55C0.60	50180K	0.6	DO-35	100
BZX55C0.70	50181R	0.7	DO-35	100
BZX55C0.80	50182R	0.8	DO-35	100
BZX55C0.90	50183R	0.9	DO-35	100
BZX55C1.00	50184R	1.0	DO-35	100
BZX55C1.20	50185A	1.2	DO-35	100
BZX55C1.30	50186K	1.3	DO-35	100
BZX55C1.40	40178G	1.4	DO-35	100
BZX55C1.50	50187M	1.5	DO-35	100
BZX55C1.60	50188K	1.6	DO-35	100
BZX55C1.80	40165F	1.8	DO-35	100
BZX55C2.00	40166H	2.0	DO-35	100
BZX55C2.20	50189D	2.2	DO-35	100
BZX55C2.40	40167R	2.4	DO-35	100
BZX55C2.60	40168K	2.6	DO-35	100
BZX55C2.80	40169R	2.8	DO-35	100
BZX55C3.00	50190F	3.0	DO-35	100
BZX55C3.30	50191R	3.3	DO-35	100
BZX55C3.60	40170A	3.6	DO-35	100
BZX55C3.90	40171X	3.9	DO-35	100
BZX55C4.20	50191D	4.2	DO-35	100
BZX55C4.70	40172H	4.7	DO-35	100
BZX55C5.00	40174D	5.0	DO-35	100
BZX55C5.60	40175D	5.6	DO-35	100
BZX55C6.20	50192K	6.2	DO-35	100
BZX55C6.80	50193K	6.8	DO-35	100
BZX55C7.50	50194K	7.5	DO-35	100
BZX55C8.20	50195K	8.2	DO-35	100
BZX55C9.10	50196K	9.1	DO-35	100
BZX55C10.00	50197K	10.0	DO-35	100
BZX55C11.00	50198K	11.0	DO-35	100
BZX55C12.00	50199K	12.0	DO-35	100
BZX55C13.00	50200K	13.0	DO-35	100
BZX55C15.00	50201K	15.0	DO-35	100
BZX55C18.00	50202K	18.0	DO-35	100
BZX55C20.00	50203K	20.0	DO-35	100
BZX55C22.00	50204K	22.0	DO-35	100
BZX55C24.00	50205K	24.0	DO-35	100
BZX55C27.00	50206K	27.0	DO-35	100
BZX55C30.00	50207K	30.0	DO-35	100
BZX55C33.00	50208K	33.0	DO-35	100
BZX55C36.00	50209K	36.0	DO-35	100
BZX55C39.00	50210K	39.0	DO-35	100
BZX55C43.00	50211K	43.0	DO-35	100
BZX55C47.00	50212K	47.0	DO-35	100
BZX55C51.00	50213K	51.0	DO-35	100
BZX55C56.00	50214K	56.0	DO-35	100
BZX55C62.00	50215K	62.0	DO-35	100
BZX55C68.00	50216K	68.0	DO-35	100
BZX55C75.00	50217K	75.0	DO-35	100
BZX55C82.00	50218K	82.0	DO-35	100
BZX55C91.00	50219K	91.0	DO-35	100
BZX55C100.00	50220K	100.0	DO-35	100

1/22

MS1025 Zener Diode 3.0v BZX79-C3V0

56162YM

040176Y

BZX79 series

Supplied to RS by Mullard

500 mW

A range of silicon planar zener diodes intended for use as low voltage stabilizers or voltage references. DO-35 envelopes, $\pm 5\%$ tolerance.

technical specification

Maximum power dissipation 500 mW
(If leads are kept at 50 °C at 8 mm from body)
Non-repetitive peak reverse power dissipation 30 W (max.)
Maximum junction temp $V_Z < 3$ V 150 °C
 $V_Z \geq 3$ V 200 °C
Thermal resistance from junction to tie point 0.30 °C/mW
 θ_{JA} for p.c.b. mounting
< 50 mm² Cu 310 °C to 380 °C/W for 5 to 25 mm leads
> 100 mm² Cu 275 °C to 340 °C/W for 5 to 25 mm leads

S.S.M. - 5			
V_Z	slope res. (Ω)	temp. coeff. (mV/°C)	stock no.
2.4	100	-1.5	283-570
2.7	100	-2.0	283-586
3.0	95	-2.1	283-592
3.3	95	-2.4	283-608
3.6	90	-2.4	283-615
3.9	90	-2.5	283-621
4.3	80	-2.5	283-637
4.7	80	-1.4	283-643
5.1	60	-0.8	283-659
5.6	40	1.2	283-665
6.2	10	2.3	283-671
6.8	15	3.0	283-687
7.5	15	4.0	283-693
8.2	15	4.6	283-700
9.1	15	5.5	283-716
10	20	6.4	283-722
12	25	8.4	283-738
15	30	11.4	283-744
18	45	14.4	283-750
22	55	18.4	283-766
27	80	23.4	283-772
33	80	29.7	283-788
39	130	36.4	283-794
47	170	46.1	283-801
56	290	57.0	283-817
68	240	71.7	283-823
75	255	80.2	283-839

ITT Semiconductors

BZX55 Series -
500mW - 5% - D035
Glass Package

Available to CECC 50-005-005

Type No.	Stock No.	V_Z (V)	Prices £ each 1 100+ 1000+		
BZX55C0V8	40164H	0.8	0.095	0.063	0.054
BZX55C2V7	40173F	2.7	0.095	0.063	0.054
BZX55C3V0	40176X	3.0	0.095	0.063	0.054
BZX55C3V3	40177B	3.3	0.095	0.063	0.054
BZX55C3V6	59789H	3.6	0.095	0.063	0.054
BZX55C3V9	59790X	3.9	0.095	0.063	0.054
BZX55C4V3	59791R	4.3	0.095	0.063	0.054
BZX55C4V7	59792G	4.7	0.095	0.063	0.054
BZX55C5V1	59793F	5.1	0.095	0.063	0.054
BZX55C5V6	59794C	5.6	0.095	0.066	0.054
BZX55C6V2	59795A	6.2	0.095	0.063	0.054
BZX55C6V8	59796X	6.8	0.095	0.063	0.054
BZX55C7V5	40178G	7.5	0.095	0.063	0.054
BZX55C8V2	59797H	8.2	0.095	0.063	0.054
BZX55C9V1	59798F	9.1	0.095	0.063	0.054
BZX55C10	40185E	10.0	0.095	0.063	0.054
BZX55C11	40186D	11.0	0.095	0.063	0.054
BZX55C12	59799B	12.0	0.095	0.063	0.054
BZX55C13	40187B	13.0	0.095	0.063	0.054
BZX55C15	40188X	15.0	0.095	0.063	0.054
BZX55C16	40169F	16.0	0.095	0.063	0.054
BZX55C18	59800F	18.0	0.095	0.063	0.054
BZX55C20	40170A	20.0	0.095	0.063	0.054
BZX55C22	40171X	22.0	0.095	0.063	0.054
BZX55C24	59801D	24.0	0.095	0.063	0.054
BZX55C27	40172H	27.0	0.095	0.063	0.054
BZX55C30	40174D	30.0	0.095	0.063	0.054
BZX55C33	40175B	33.0	0.095	0.063	0.054
CV7141	59806E	4.3	0.095	0.063	0.054
CV7101	59810B	5.6	0.095	0.063	0.054
CV7102	59807C	6.2	0.095	0.063	0.054
CV7103	59809X	6.8	0.095	0.063	0.054

ALSO

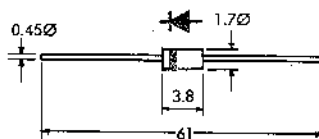
BZX

BZX55.

2198

IN 4148 silicon switch diode

Rectronix

 $V_{BR} = 75V \text{ min. } I_R = 25\mu A \text{ max. } V_f = 1V$

UNIT QTY	ORDER CODE
50	253-35610C

UNIT QTY	ORDER CODE
Bulk Packs	
10.000	253-65683L

MS1027 3M3 CFR 0.33W 5%

90-25817K

**Carbon film resistors
CFR 25 0.33W 5%**

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is banded.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/+800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820K	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497I
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503K
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485S	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487F	240K	90-21509I
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	42K	90-21491B	360K	90-21513F

22201

Rib-loc press in 2 mm socket

Needs no assembly or mounting hardware. It is pressed into, and securely held by, a 4.37 mm hole. Silver plated beryllium contact spring. The brass solder terminal is silver plated and iridized for good solderability.

Insulating body of low loss polyamide. Capacity to 1/8 inch panel 1.4pF nominal.

Peak voltage: 5000 V

Current rating: 10 amps

COLOUR	UNIT QTY	ORDER CODE
White	10	63-2000H
Red	10	63-2001C
Black	10	63-2002J
Blue	10	63-2007F

MS1030 Capacitor 10 MFD Radial

92-23340E

Aluminium electrolytics
radial type - SMVB

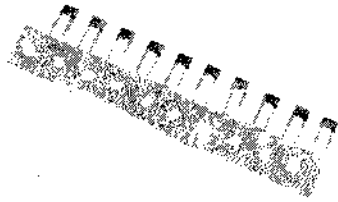
ECC



µF	RIPPLE mA	CAN SIZE	LEAD PITCH	UNIT QTY	ORDER CODE
10 volt radial					
47	60	5 x 11	2	5	92-23335A
100	99	6.3 x 11	2.5	5	92-23336H
220	170	8 x 11.5	3.5	5	92-23337D
1000	560	12.5 x 20	5	5	92-23338L
2200	946	16 x 25	7.5	5	92-23339G
3300	1189	16 x 31.5	7.5	5	92-39623A
16 volt radial					
10	29	5 x 11	2	5	92-23340E
22	45	5 x 11	2	5	92-23341A
100	128	8 x 11.5	3.5	5	92-23343D
220	222	10 x 12.5	5	5	92-23344L
470	386	10 x 20	5	5	92-23345G
1000	676	12.5 x 25	5	5	92-23346C
2200	1046	16 x 25	7.5	5	92-23347K
3300	1347	16 x 35.5	7.5	5	92-39624H
4700	1585	18 x 35.5	7.5	5	92-39625D

Dipped radial multilayer ceramic capacitors

AVX ▲



A range of dipped radial multilayer capacitors manufactured to BS 9075 F0035/6/7.

Dielectric Characteristics

BSI dielectric designation, 1B is , COG 2C1 is X7R, 2F4 is Z5U.

COG dielectric exhibits ultra stability in terms of time, temperature, frequency and voltage variations.

Temperature range -55 to $+125^{\circ}\text{C}$ with coefficient $-0 \pm 30 \text{ ppm}/^{\circ}\text{C}$.

X7R dielectric offers greater volumetric efficiency whilst maintaining stability within defined limits. Temperature range -55 to $+125^{\circ}\text{C}$ with a coefficient $\pm 15\%$.

Z5U dielectric has the highest volumetric efficiency using general purpose material where temperature dependence is not of major importance. Temperature range $\pm 10\%$ to 85°C with a coefficient $+22$ -56% .

Case Sizes (mm)

Dimension	SR15	SR20	SR21	SR30
M	3.81	5.08	5.08	7.62
W	3.81	5.08	5.08	7.62
T	2.54	3.175	3.175	3.81
LP	2.54	2.54	5.08	5.08

Lead Diameter 0.508 mm.

Climate Category

COG/X7R: 55/125/56

Z5U: 25/85/56

Approvals

COG: BS CECC 30601-008

X7R: BS CECC 30701-013

Z5U: BS CECC 30701-006

VALUE	V	OL	CASES	UNIT QTY	ORDER CODE
COG					
10pF	100	5%	SR15	5	92-57930K
22pF	100	5%	SR15	5	92-57931F
47pF	100	5%	SR15	5	92-57932B
100pF	100	5%	SR15	5	92-57933J
220pF	100	5%	SR15	5	92-57934E
470pF	100	5%	SR15	5	92-57935A
1000pF	100	5%	SR20	5	92-57936H
X7R					
100pF	100	10%	SR15	5	92-57937D
220pF	100	10%	SR15	5	92-57938L
470pF	100	10%	SR15	5	92-57939G
1000pF	100	10%	SR15	5	92-57940E
1000pF	100	10%	SR21	5	92-57941A
2200pF	100	10%	SR15	5	92-57942H
3300pF	100	10%	SR15	5	92-57943D
4700pF	100	10%	SR15	5	92-57944L
6800pF	100	10%	SR20	5	92-57945G
0.01 μF	50	10%	SR15	5	92-57946C
0.01 μF	100	10%	SR21	5	92-57947K
0.01 μF	100	10%	SR20	5	92-57948F
0.022 μF	100	10%	SR21	5	92-57949B
0.022 μF	700	10%	SR20	5	92-57950L
0.033 μF	100	10%	SR20	5	92-57951G
0.047 μF	50	10%	SR30	5	92-57952C
0.047 μF	100	10%	SR21	5	92-57953K
0.068 μF	50	10%	SR20	5	92-57954F
0.1 μF	50	20%	SR21	5	92-57955B
0.1 μF	100	10%	SR30	5	92-57956J

Subminiature aluminium electrolytics SRA - radial

ECC



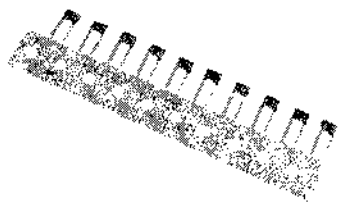
A range of subminiature aluminium electrolytic capacitors for applications requiring very small case sizes, for example in replacing dipped tantalum capacitors.

*Specification:**Tolerance: $\pm 20\%$* *Leakage Current: $0.01CV (\mu A)$ or $3\mu A$ - whichever is greater (after 2 mins)**Temperature Range: -40° to $+85^\circ C$*

μF	V	SIZE	RICH	UNIT QTY	ORDER CODE
0.1	63	4 x 7	1.5	5	92-39632L
0.22	63	4 x 7	1.5	5	92-39633G
0.33	63	4 x 7	1.5	5	92-39634C
0.47	63	4 x 7	1.5	5	92-39635K
1.0	63	4 x 7	1.5	5	92-39636F
2.2	63	4 x 7	1.5	5	92-39637B
3.3	63	4 x 7	1.5	5	92-39638J
4.7	40	4 x 7	1.5	5	92-39639E
10	16	4 x 7	1.5	5	92-39640C
22	16	5 x 7	2.5	5	92-39641K
47	16	6.3 x 7	2.5	5	92-39642F
100	6.3	6.3 x 7	2.5	5	92-39643B

Dipped radial multilayer ceramic capacitors

AVX ▲



A range of dipped radial multilayer capacitors manufactured to BS 9075 F0035/6/7.

Dielectric Characteristics

BSI dielectric designation, 1B is , COG 2C1 is X7R, 2F4 is Z5U.

COG dielectric exhibits ultra stability in terms of time, temperature, frequency and voltage variations.

Temperature range -55 to $+125^{\circ}\text{C}$ with coefficient $-0 \pm 30 \text{ ppm}/^{\circ}\text{C}$.

X7R dielectric offers greater volumetric efficiency whilst maintaining stability within defined limits. Temperature range -55 to $+125^{\circ}\text{C}$ with a coefficient $\pm 15\%$.

Z5U dielectric has the highest volumetric efficiency using general purpose material where temperature dependence is not of major importance. Temperature range $\pm 10\%$ to 85°C with a coefficient $+22 - 56\%$.

Case Sizes (mm)

Dimension	SR15	SR20	SR21	SR30
H	3.81	5.08	5.08	7.62
W	3.81	5.08	5.08	7.62
T	2.54	3.175	3.175	3.81
LP	2.54	2.54	5.08	5.08

Lead Diameter 0.508 mm.

Climatic Category:

COG/X7R: 55/125/56

Z5U: 25/85/56

Approvals

COG: BS CECC 30601-008

X7R: BS CECC 30701-013

Z5U: BS CECC 30701-006

VALUE	V	TOL	CASES	UNIT QTY	ORDER CODE
COG					
10pF	100	5%	SR15	5	92-57930K
22pF	100	5%	SR15	5	92-57931F
47pF	100	5%	SR15	5	92-57932B
100pF	100	5%	SR15	5	92-57933J
220pF	100	5%	SR15	5	92-57934E
470pF	100	5%	SR15	5	92-57935A
1000pF	100	5%	SR20	5	92-57936H
X7R					
100pF	100	10%	SR15	5	92-57937D
220pF	100	10%	SR15	5	92-57938L
470pF	100	10%	SR15	5	92-57939G
1000pF	100	10%	SR15	5	92-57940E
1000pF	100	10%	SR21	5	92-57941A
2200pF	100	10%	SR15	5	92-57942H
3300pF	100	10%	SR15	5	92-57943D
4700pF	100	10%	SR15	5	92-57944L
6800pF	100	10%	SR20	5	92-57945G
0.01μF	50	10%	SR15	5	92-57946C
0.01μF	100	10%	SR21	5	92-57947K
0.01μF	100	10%	SR20	5	92-57948F
0.022μF	100	10%	SR21	5	92-57949B
0.022μF	100	10%	SR20	5	92-57950L
0.033μF	100	10%	SR20	5	92-57951G
0.047μF	50	10%	SR30	5	92-57952C
0.047μF	100	10%	SR21	5	92-57953K
0.068μF	50	10%	SR20	5	92-57954F
0.1μF	50	20%	SR21	5	92-57955B
0.1μF	100	10%	SR30	5	92-57956J
Z5U					
0.01μF	100	20%	SR15	5	92-57957E
0.047μF	100	-20 + 80%	SR21	5	92-57958A
0.1μF	100	-20 + 80%	SR21	5	92-57959H
0.1μF	100	20%	SR21	5	92-57960F

50 Hz
100 Hz

Intensity

1 Hz
2 Hz

MICROSTIM
Supramaximal
Stimulator

When flash is deep RED
change battery

MS1037 Serial Nos. Lable

VL1013

MS1038 Knurled Knob & Grub Screw

twin miniature - PP3



Lead length 220

Suits battery types **B152, B153, PP3** and **PP6**.

S.S.M. = 5	B.P. = 100
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stock no.	price each
	5-95 100-245
489-021	£0-194 £0-174

5/12/77



VIAMED

15 Station Road, Cross Hills,
Kelghley, West Yorkshire.
Tel. Cross Hills (0535) 34542
(0535) 36757

**Type SMVB single ended
(radial)**

ECC

**Temperature Range**

100V D.C. or less: -40° to +85°C

450V D.C.: -25° to +85°C

Tolerance: ±20% at 20°C, 120 Hz

Leakage Current

100V D.C. or less:

After 1 min: 0.03CV (μA) or 4μA

After 2 mins: 0.01CV (μA) or 3μA

450V D.C.:

After 1 min: 0.1CV (μA) (CV ≤ 1000)

0.04CV + 100 (μA) + 40μA (CV > 1000)

After 5 mins: 0.03CV + 15 (μA)

(CV ≤ 1000)

0.02CV + 25 (μA) (CV > 1000)

Where C = Nominal Capacitance (μF)

V = Rated Voltage (V)

Ripple Current (quoted) at +85° and 120Hz

μF	DRIVE mA	CAN SIZE	LEAD PITCH	UNIT QTY	ORDER CODE
10 volt radial					
47	60	5 x 11	2	5	92-23335A
100	99	6.3 x 11	2.5	5	92-23336H
220	170	8 x 11.5	3.5	5	92-23337D
1000	560	12.5 x 20	5	5	92-23338L
2200	946	16 x 25	7.5	5	92-23339G
3300	1189	16 x 31.5	7.5	5	92-39623A
16 volt radial					
10	29	5 x 11	2	5	92-23340E
22	45	5 x 11	2	5	92-23341A
100	128	8 x 11.5	3.5	5	92-23343D
220	222	10 x 12.5	5	5	92-23344L
470	386	10 x 20	5	5	92-23345G
1000	676	12.5 x 25	5	5	92-23346C
2200	1046	16 x 25	7.5	5	92-23347K
3300	1347	16 x 35.5	7.5	5	92-39624H
4700	1585	18 x 35.5	7.5	5	92-39625D
25 volt radial					
22	49	5 x 11	2	5	92-26291E
47	81	6.3 x 11	2.5	5	92-26292A
100	137	8 x 11.5	3.5	5	92-26293H
220	260	10 x 16	5	5	92-26294D
330	346	10 x 20	5	5	92-39626L
470	458	12.5 x 20	5	5	92-26295L
1000	800	16 x 25	7.5	5	92-26296G
2200	1230	16 x 35.5	7.5	5	92-26297C
3300	1560	18 x 40	7.5	5	92-39627D
63 volt radial					
1.0	12	5 x 11	2	5	92-23355B
2.2	20	5 x 11	2	5	92-23356J
4.7	30	5 x 11	2	5	92-23357E
10	50	6.3 x 11	2.5	5	92-23358A
22	85	8 x 11.5	3.5	5	92-23359H
47	145	10 x 12.5	5	5	92-23360F
100	252	10 x 20	5	5	92-23361B
220	414	12.5 x 20	5	5	92-23362J
330	550	12.5 x 25	5	5	92-39628C
470	725	16 x 25	7.5	5	92-39629K
1000	1212	18 x 35.5	7.5	5	92-39630H

4713

MS1043 Rib-Loc Press in Sockets 2mm Black 63-2002

Cross Refer to MS1029 for information

8/2/13



Wellcome

When flash is deep RED,
replace battery.
Use battery type MNI604
Alkaline 9.0v or
equivalent.



VIAMED

15 Station Road, Cross Hills,
Kelghley, West Yorkshire.
Tel. Cross Hills (0535) 34542
(0535) 36757

When flash is deep RED,
replace battery.
Use battery type MNI604
Alkaline 9.0v or
equivalent.





VIAMED

15 Station Road, Cross Hills,
Keighley, West Yorkshire.
Tel. Cross Hills (0535) 34542
(0535) 36757

MS1049 Dumbells

MS1049

MS1050 Intensity Knob label

VL1014

50 Hz
100 Hz

Intensity

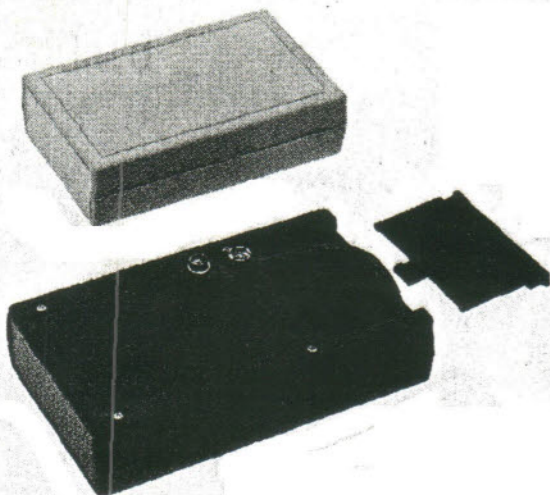
1 Hz
2 Hz

MICROSTIM

Supramaximal
Stimulator



style 2



A range of cases moulded in A.B.S. with a textured finish. The front panel is moulded in A.B.S. and is removable to aid machining and assembly. The integral battery compartment is of sufficient size to contain a PP3 type battery, access is via an external removable cover. These cases are ideal to house hand-held or transportable instruments, monitors, receivers, etc. Size 1 is coloured beige, size 2 and 3 are coloured black. Sizes 1 and 2 have detachable end panels. All are supplied with a PP3 battery connector.

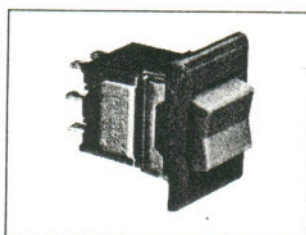
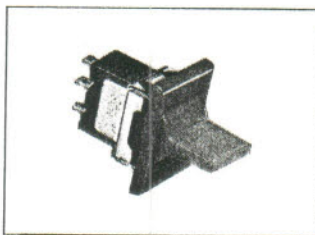
size	L.	external W.	external D.	usable panel area	panel location	panel thickness	max. p.c.b. size
1	96.5	61	25.4	55.3 × 22.9	end	1.6	54 × 52
2	114	61	22.7	61 × 19	end	1.6	72 × 52
3	146	91.5	30.5	133 × 78.5	top	1.6	90 × 67

S.S.M. ≈ 1

size	stock no.	price each	
		1-24	25-49
1	502-095	£3.57	£3.25
2	506-047	£4.74	£4.40
3	506-025	£4.82	£4.48

Bill of materials Microstim 1

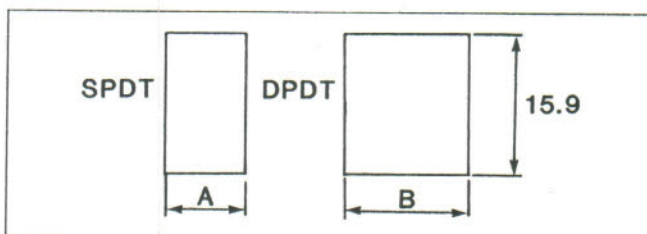
Part No	Order No	SUPPLIER	Description	B.P.£	QTY_REQ	Cost
MS1001	CD4093BCN	FAR	IC CD4093BCN quad 2 I/P Nand Sch	0.53	1	0.53
MS1002		P&M	PCB no components Microstim	1.98	1	1.98
MS1003	152-271	FAR	Switch DPDT CO Momm 2028TJWO	1.5	2	3
MS1004	145-196	FAR	Switch Rocker Actuator Red(A4750R)	0.1	2	0.2
MS1005	145-207	FAR	Switch Bezels (AT207K)		2	0
MS1006	360-478	FAR	Transistor BD131	0.58	1	0.58
MS1007	356-268	FAR	Transistor BC107		0.3	0
MS1008	MN1604	FAR	Duracell MN1604 Alkaline (PP3 size)	3	1	3
MS1009	506-047	RS	Case undrilled	4.62	1	4.62
MS1010	LT700	ALB	Transformer Eagle LT700	0.33	2	0.66
MS1011	803 102	CAR	Stimulator Leads twin 2mm plug	6.687	1	6.687
MS1012	90-26348C	Ver	Pot 10K (Type LCU)	2.11	1	2.11
MS1013	90-35948F	Ver	Pot 1Meg (CT76-10 Top Adj)	0.38	2	0.76
MS1014	90-35945L	Ver	Res 100K Pot (CT76-10 Top Adj)	0.38	2	0.76
MS1015	90-35938D	Ver	Pot 500R (CT76-10 Top Adj)	0.38	1	0.38
MS1016	90-25815G	Ver	Res 1.5M CFR 0.33w 5%	0.014	1	0.014
MS1017	90-21430C	Ver	Res 120R CFR 0.33w 5%	0.014	1	0.014
MS1018	90-21452G	ELE	Res 1K CFR 0.33w 5%	0.014	1	0.014
MS1019	90-21446G	Ver	Res 560R CFR 0.33w 5%	0.014	1	0.014
MS1020	90-21500A	Ver	Res 100K CFR 0.33w 5%	0.014	1	0.014
MS1021	257-152253B	ELE	LED Tri Colour LTL52RG	0.35	1	0.35
MS1022	257-36888B	ELE	LED. Clip & Ring LTL001B	0.09	1	0.09
MS1023	253-25219C	ELE	Regulator 5V.100mA UA78LO5	0.28	1	0.28
MS1024	369-342	FAR	Zener Diode 3.0v BZX79-C3V0	0.8	1	0.8
MS1025	369-378	FAR	Zener Diode 3.9v BZX79-C3V9	0.8	1	0.8
MS1026	253-35610C	ELE	Diode switching IN4148	0.24	0	0
MS1027	90-25817K	Ver	Res 3M3 CFR 0.33w 5%	0.014	0	0
MS1029	63-2001C	ELE	Rib-Loc Press in Sockets 2mm red	0.047	0	0
MS1030	108-848	FAR	Capacitor 10 MFD Radial	0.43	0	0
MS1031	92-26293H	Ver	Capacitor 100 MFD Radial	0.44	0	0
MS1032	92-57944L	Ver	Capacitor 4700 pF	0.72	0	0
MS1033	92-39635K	Ver	Capacitor 0.47 MFD	0.41	0	0
MS1034	92-57958A	Ver	Capacitor 0.047 MFD	0.33	0	0
MS1035	VL1011	REN	Lable Front Panel Green	0.1	0	0
MS1036	VL1012	REN	Lable Battery Cover Red	0.1	0	0
MS1037	VL1013	REN	Lable Serial Nos.	0.1	0	0
MS1038		MP	Knurled Knob & Grub Screw		0	0
MS1040	VL1002	REN	Lable Viamed Large Clip	0.1	0	0
MS1042	92-23344L	Ver	Capacitor 220 MFD (10v)	0.99	0	0
MS1043	63-2002J	ELE	Rib-Loc Press in Sockets 2mm Black	0.047	0	0
MS1044	ALB	FAR	Switch DPDT CO Momm 2028TJWO	1.5	0	0
MS1044	VL1038	REN	Lable Rear Cover Welcome LGE	0.1	0	0
MS1045	VL1039	REN	Lable Battery Cover Welcome	0.1	0	0
MS1046	VL1040	REN	Lable Viamed Narrow Clip	0.1	0	0
MS1047	MS1047	M.P	Case Drilled & Labeled Microstim	9	0	0
MS1049	MS1049	APP	Dumbells obsolete		0	0
MS1050	VL1014	REN	Lable Intensity Knob	0.1	0	0

Nikkai M Series

Rocker and paddle switches with snap-in panel mounting, stocked as switch units with bezels and actuators held as separate items.
Solder lug terminals. Silver contacts.
Ratings 6A 125V AC 30V DC.

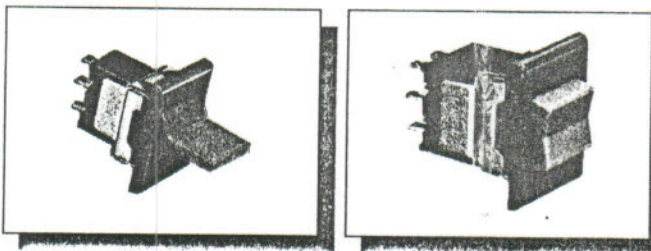
DIMENSIONS (mm) (including bezel and actuator)

	L	W	H (inc. tags)
Rocker	22	16	26
Paddle	22	16	35



A = 12.5 x n without bezel
A = 12.5 + (15.6 (n-1)) with bezel
B = 13.1 x n without bezel
B = 13.1 + (15.6 (n-1)) with bezel
n = No. of switches

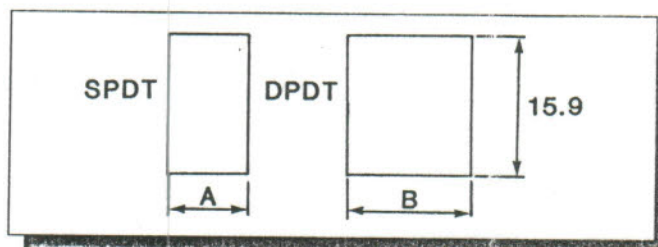
Type No.	Stock No.	Description	Prices £ each		
			1+	50+	100+
M2012TJW01	77389H	SPDT 2 pos	1.830	1.440	1.150
M2022TJW01	77390X	DPDT 2 pos	2.240	1.770	1.420
M2023TJW01	77391R	DPDT 3 pos (centre off)	2.710	2.140	1.710
M2025TJW01	77393E	DPDT 2 pos (momentary)	2.710	2.140	1.710
* M2028TJW01	77394C	DPDT 3 pos (centre off momentary both ways)	2.920	2.300	1.840
ROCKER ACTUATOR					
AT450 Black	77395A		0.190	-	-
AT450 Red	77396X		0.190	-	-
AT450 White	77397H		0.190	-	-
PADDLE ACTUATOR					
AT451 Black	77398F		0.190	-	-
AT451 Red	77399D		0.190	-	-
AT451 White	77400F		0.190	-	-
BEZELS					
AT207 Black	77402B	Bezel for Rocker/Paddle	0.220	-	-
AT208 Black	77403X	Bezel & LED-Rocker/Paddle	0.760	0.760	0.760

Nikkai M Series

Rocker and paddle switches with snap-in panel mounting, stocked as switch units with bezels and actuators held as separate items.
Solder lug terminals. Silver contacts.
Ratings 6A 125V AC 30V DC.

DIMENSIONS (mm) (including bezel and actuator)

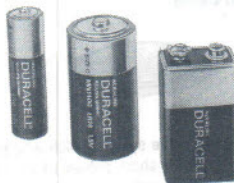
	L	W	H (inc. tags)
Rocker	22	16	26
Paddle	22	16	35



A = 12.5 x n without bezel
A = 12.5 + (15.6 (n-1)) with bezel
B = 13.1 x n without bezel
B = 13.1 + (15.6 (n-1)) with bezel
n = No. of switches

Type No.	Stock No.	Description	Prices £ each		
			1+	50+	100+
M2012TJW01	77389H	SPDT 2 pos	1.830	1.440	1.150
M2022TJW01	77390X	DPDT 2 pos	2.240	1.770	1.420
M2023TJW01	77391R	DPDT 3 pos (centre off)	2.210	2.140	1.710
M2025TJW01	77393E	DPDT 2 pos (momentary)	2.710	2.140	1.710
M2028TJW01	77394C	DPDT 3 pos (centre off momentary both ways)	2.920	2.300	1.840
ROCKER ACTUATOR					
AT450 Black	77395A		0.190	-	-
AT450 Red	77396X		0.190	-	-
AT450 White	77397H		0.190	-	-
PADDLE ACTUATOR					
AT451 Black	77398F		0.190	-	-
AT451 Red	77399D		0.190	-	-
AT451 White	77400F		0.190	-	-
BEZELS					
AT207 Black	77402B	Bezel for Rocker/Paddle	0.270	-	-
AT208 Black	77403X	Bezel & LED-Rocker/Paddle	0.740	0.760	0.760

Alkaline Manganese - Standard

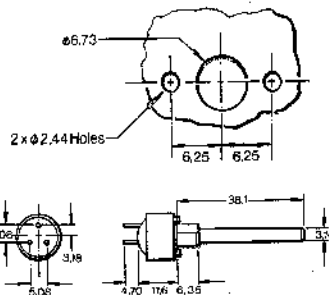


This system offers long shelf life and corrosion-free construction together with high reliability. The range includes the main international sizes and are physically interchangeable with the most popular sizes of ordinary batteries.

Voltage	Can Style	Max. Dimensions		Capacity mAh	● Standard Pack Qty.	● Small Pack Qty.	Order Code
		L	Dia				
1.5	AAA	44.5	10.5	800	100	10	MN2400
1.5	N	30.2	12.0	800	50	10	MN9100
1.5	AA	50.5	14.5	2250	100	10	MN1500
1.5	C	50.0	26.2	7000	50	10	MN1400
1.5	D	61.5	34.2	15000	50	10	MN1300
1.5	D	61.5	34.2	15000	—	—	MN1300T2◆
9.0	PP3	48.5 × 26.5 × 17.5		500	50	10	MN1604

● For convenience of handling we recommend small and standard pack multiples, but we will supply to any quantity required.

MS1011 Stimulator Leads

Potentiometers - type LC1BICC-Citec 

A range of cermet potentiometers offering excellent electrical and thermal stability with high reliability, low noise and long life. Housed in a 13 mm diameter alloy case and supplied with nut and washer.

~ Please note product will be called type LC in the future.

Law: Linear

Tolerance: 20%

Rated Dissipation @ 20°C: 1W

Isolation: 450V dc

Electrical Rotation: 260°

Mechanical Rotation: 295° ±5°

Insulation Resistance: >5G ohms

Voltage Proof: 630V ac peak

VALUE	UNIT QTY	ORDER CODE
100Ω	1	90-26342E
220Ω	1	90-26343A
470Ω	1	90-26344H
1K	1	90-26345D
2K2	1	90-26346L
4K7	1	90-26347G
10K	1	90-26348C
22K	1	90-26349K
47K	1	90-26350H
100K	1	90-26351D
220K	1	90-26352L
470K	1	90-26353G
1M	1	90-26354C

9/195

**Carbon film resistors
CFR 25 0-33W 5%**

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is banded.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-500 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497L
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503K
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485S	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1017 120R CFR 0.33W 5%

90-21430C

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is bandoliered.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6,4 x 2,3 mm: Leads 0,6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497I
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503I
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

500-90

MS1018 1K CFR 0.33W 5%

90-21452G

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is bandoliered.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm. Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451I	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474I	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497J
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457I	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503J
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439I	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509J
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445I	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1019 560R CFR 0.33W 5%

90-21446G

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is banded.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.1 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497L
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498G
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503B
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509I
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

MS1020 100K CFR 0.33W 5%

90-21500A

Carbon film resistors
CFR 25 0.33W 5%

Neohm ▲

Low cost, excellent stability against load and moisture, very low noise level and very high reliability make this range suitable for specification in measuring, communication, audio and computer circuitry. Product is bandoliered.

Rating: 0.33W @ 70°C

Tolerance: 5%

Body: 6.4 x 2.3 mm; Leads 0.6 mm diameter

Body Temperature Coeff: -150/-800 ppm/°C

Max. Overload Voltage: 500V

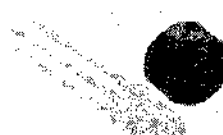
Dielectric Strength: 500V

VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE	VALUE	ORDER CODE
10R	90-21404B	82R	90-21426F	680R	90-21448K	5K6	90-21470E	47K	90-21492J
11R	90-21405J	91R	90-21427B	750R	90-21449F	6K2	90-21471A	51K	90-21493E
12R	90-21406E	100R	90-21428J	820R	90-21450D	6K8	90-21472H	56K	90-21494A
13R	90-21407A	110R	90-21429E	910R	90-21451L	7K5	90-21473D	62K	90-21495H
15R	90-21408H	120R	90-21430C	1K	90-21452G	8K2	90-21474L	68K	90-21496D
16R	90-21409D	130R	90-21431K	1K1	90-21453C	9K1	90-21475G	75K	90-21497I
18R	90-21410B	150R	90-21432F	1K2	90-21454K	10K	90-21476C	82K	90-21498C
20R	90-21411J	160R	90-21433B	1K3	90-21455F	11K	90-21477K	91K	90-21499C
22R	90-21412E	180R	90-21434J	1K5	90-21456B	12K	90-21478F	100K	90-21500A
24R	90-21413A	200R	90-21435E	1K6	90-21457J	13K	90-21479B	110K	90-21501H
27R	90-21414H	220R	90-21436A	1K8	90-21458E	15K	90-21480L	120K	90-21502D
30R	90-21415D	240R	90-21437H	2K0	90-21459A	16K	90-21481G	130K	90-21503I
33R	90-21416L	270R	90-21438D	2K2	90-21460K	18K	90-21482C	150K	90-21504G
36R	90-21417G	300R	90-21439L	2K4	90-21461F	20K	90-21483K	160K	90-21505C
39R	90-21418C	330R	90-21440J	2K7	90-21462B	22K	90-21484F	180K	90-21506K
43R	90-21419K	360R	90-21441E	3K0	90-21463J	24K	90-21485B	200K	90-21507F
47R	90-21420H	390R	90-21442A	3K3	90-21464E	27K	90-21486J	220K	90-21508B
51R	90-21421D	430R	90-21443H	3K6	90-21465A	30K	90-21487E	240K	90-21509I
56R	90-21422L	470R	90-21444D	3K9	90-21466H	33K	90-21488A	270K	90-21510G
62R	90-21423G	510R	90-21445L	4K3	90-21467D	36K	90-21489H	300K	90-21511C
68R	90-21424C	560R	90-21446G	4K7	90-21468L	39K	90-21490F	330K	90-21512K
75R	90-21425K	620R	90-21447C	5K1	90-21469G	43K	90-21491B	360K	90-21513F

2108

Tri colour LED
5 mm T1 $\frac{3}{4}$

Liton



Red and green L.E.D.s connected in common cathode configuration to provide red, green or yellow. Device is white diffused when not on and thus provides 4 states. Clip and ring sold separately.

Red Indicator 1
Common Cathode 2
Green Indicator 3

Length: 8.6 mm
Diameter: 5.0 mm
Pitch: 2.5 mm
If Typ.: 20mA
V_F Typ.: 2.1V Max 2.8V
V_R Max: 5V
Viewing Angle: $\pm 35^\circ$

IFON TYPE	INTENSITY MCD	WAVE LENGTH NM	UNIT QTY	ORDER CODE
LTL52RG	RED 1.1 GREEN 2.5	RED 697 GREEN 565	5	257-36890L
LTL001B	Clip + Ring		5	257-36888b

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