

# THICK FILM TRIMMABLE CHIP RESISTORS



FCR 10, 18, 14, 12, 01

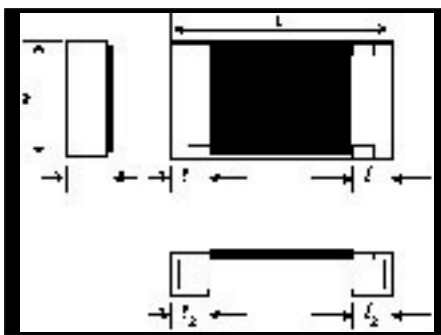
LEADFREE  
RoHS Compliant

The importance of final adjustment of critical electrical circuit values continues to increase as products become more sophisticated. MEGASTAR-OHM's trimmable chip resistors have been developed for this final resistor adjustment in the circuit application by the circuit board manufacturer.

## FEATURES

1. Excellent solderability with all soldering methods.
2. Available in 0805, 1206, 1210, 2010 and 2512 size packages
3. Operating temperatures range from -55 to 125°C.
4. Resistance range from 10 ohm to 1 Megohm
4. Operating temperatures range from -55 to 125°C.
5. Laser trimmable in circuit
6. Tolerances of  $\pm 15\%$  and  $+0/-30\%$
7. Temperature coefficients of  $\pm 200\text{ppm}/^\circ\text{C}$

## DIMENSIONS



TYPE (size)	FCR10 (0805)	FCR18 (1206)	FCR 14 (1210)	FCR12 (2010)	FCR01 (2512)
L	2.0±0.15	3.1±0.1	3.1±0.1	5.0±0.2	6.3±0.2
W	1.25± <sup>0.1</sup> <sub>0.05</sub>	1.55± 0.1	2.55± 0.1	2.5± 0.2	3.15± 0.2
H	0.5± <sup>0.1</sup> <sub>0.05</sub>	0.55± <sup>0.1</sup> <sub>0.05</sub>	0.55± <sup>0.1</sup> <sub>0.05</sub>	0.55±0.1	0.55±0.1
l <sub>1</sub>	0.4±0.2	0.45±0.2	0.45±0.2	0.6±0.2	0.6±0.2
l <sub>2</sub>	0.3± <sup>0.2</sup> <sub>0.1</sub>	0.3± <sup>0.2</sup> <sub>0.1</sub>	0.3± <sup>0.2</sup> <sub>0.1</sub>	0.6±0.2	0.6±0.2
Unit Weight	5 mg	9 mg	16 mg	25 mg	40 mg

## Part Numbering System

FCR 10 — R XXX L T

Product Type
Trimmable Chip Resistor

CODE	WATTAGE (SIZE)
10	1/10 watt (0805)
18	1/8 watt (1206)
14	1/4 watt (1210)
12	1/2 watt (2010)
01	1 watt (2512)

PWR. RATING @ 70°C	
CODE	DETAIL
R	Regular
D	Dual Rated

Resistance Value E12	
CODE	VALUES
100	10 OHM
105	1 Meg OHM

3 significant digits plus multiplier

First two (2) digits are significant figures and third digit is number of zeros.  
Letter "R" indicates decimal values under 100 ohms.

TOLERANCE	
CODE	%
L	±15%
S	+0%, -30%

Packaging	
CODE	DETAIL
B	Bulk
T	Tape & Reel (paper carrier)
TE	Tape & Reel (plastic carrier)
Please refer to packaging explanation on page 6.	

Standard Resistance Values E12

E <sub>12</sub> VALUES	10	12	15	18	22	27	33	39	47	56	68	82
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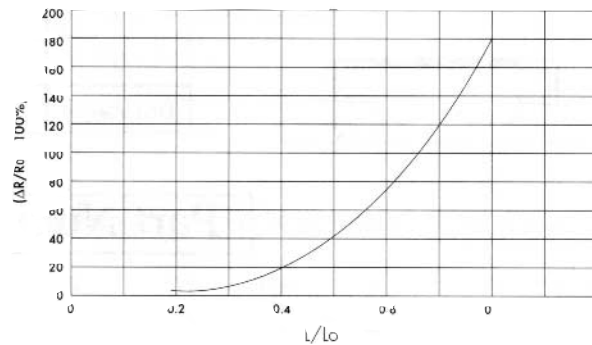
## RATINGS

Type (Size)	PWR. RATING @70°C	MAXIMUM WORKING VOLTAGE V	MAXIMUM OVERLOAD VOLTAGE V	RESISTANCE RANGE (E12 SERIES)	RESISTANCE TOLERANCE	OPERATING TEMPERATURE RANGE
FCR10 (0805)	0.10	150	300	10 to 4.7M	±15% (L) +0% -30% (S) ± 20% (M)	-55°C to 125°C
FCR18 (1206)	0.125	200	400			
FCR14 (1210)	0.25					
FCR12 (2010)	0.5					
FCR01 (2512)	1.0					

## PERFORMANCE CHARACTERISTICS

DESCRIPTION	PERFORMANCE
Resistance Temperature Coefficient	±200 ppm/°C
Short Time Overload	±1.0% maximum
Terminal Strength	±1.0% maximum
Solder-Heat Resistance	±1.0% maximum
Solderability	95% min. coverage
Temperature Cycle	±1.0% maximum
Load Life in Moisture	±3.0% maximum
Load Life	±3.0% maximum

### Typical Single-Cut trimming

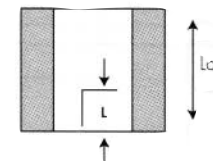


$$\Delta R = R - R_0$$

$R_0$ : Initial Resistance

$R$ : Trimmed Resistance

$L$ : Total Trimmed Length



Note: Chip resistors can be operated at rated power, provided  $L/L_0$  is 0.5 or less

Test methods per EIA 575 and JIS C5202

\* T.C.R. of ± 100ppm/°C also available upon request.

### Packaging Explanation

- Paper tape: 5000 per 7" reel - FCR 10, 18,14
- Paper tape: 1000 per 7" reel - FCR 12,01
- Embossed plastic tape: 4000 per 7" reel - FCR 14, 12 01
- Tape dimensions as per MEGASTAR-OHM RMC Series (EIA 481)

### Trimming Ratio

