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Jameco Part Number 1868012

KOA SPEER ELECTRONICS, INC.

MF, MFS, RK

general purpose metal film leaded resistor

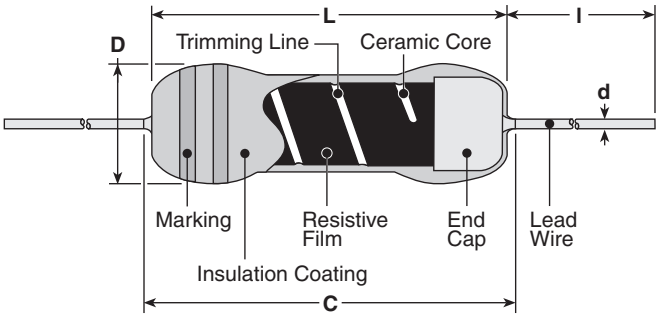
RoHS COMPLIANT



features

- Semi-precision metal film resistors
- Meets requirements of MIL-R-22684
- Suitable for automatic machine insertion
- MFS two times the power rating of the standard body type
- Marking: Blue-gray body color with color-coded bands
- Products with lead-free terminations meet RoHS requirements. Pb located in glass material, electrode and resistor element is exempt per Annex 1, exemption 5 of EU directive 2005/95/EC

dimensions and construction



Type	Dimensions inches (mm)				
	L (ref.)	C (max.)	D	d	l
MFS1/4	.126 (3.2)	.133 (3.4)	.066 $^{+.007}_{-.004}$ (1.7 $^{+0.2}_{-0.1}$)	.018 (0.45)	1.18±.118 (30.0±3.0)
MF1/4	.248 (6.3)	.280 (7.1)	.091±.012 (2.3±0.3)	.024±.002 (0.6±0.05)	
MFS1/2	.248 (6.3)	.280 (7.1)	.091±.012 (2.3±0.3)	.024±.002 (0.6±0.05)	
MF1/2	.374 (9.5)	.437 (11.1)	.138±.016 (3.5±0.4)	.031±.002 (0.8±0.05)	
MF1	.610 (15.5)	.721 (18.3)	.217±.02 (5.5±0.5)	.031±.002 (0.8±0.05)	1.50±.126 (38.1±3.2)
RK1/4	.248 (6.3)	.280 (7.1)	.091±.012 (2.3±0.3)	.024±.002 (0.6±0.05)	1.18±.118 (30.0±3.0)
RK1/2	.374 (9.5)	.437 (11.1)	.138±.016 (3.5±0.4)	.031±.002 (0.8±0.05)	

ordering information

New Part #

MF	1/4	L	C	T52	R	R20	J
Type	**Power Rating**	**T.C.R.**	**Termination Material**	**Taping and Forming**	**Packaging**	**Nominal Resistance**	**Tolerance**
MF MFS RK	1/4: 0.25W 1/2: 0.50W 1: 1W	E: ±25 C: ±50 D: ±100 L: ±200	C: SnCu (Other termination styles may be available, please contact factory for options)	1/4: T26, T52, VT, VTP, VTE, MT, M, U, M10, M25 1/2: T26, T52, VTP, VTE, M12.5, M15 1: T521	A: Ammo R: Reel	+2%: 2 significant figures + 1 multiplier +0.5%,+1%: 3 significant figures + 1 multiplier "R" indicates decimal on value <100Ω	B: ±0.1% C: ±0.25% D: ±0.5% F: ±1% G: ±2% J: ±5%

For further information on packaging, please refer to Appendix C.

applications and ratings

Part Designation	Power Rating @ 70°C	Minimum Dielectric Withstanding Voltage	T.C.R. (ppm/°C)	Resistance Range (Ω) (B±0.1%) E-96	(C±0.25%) E-96	(D±0.5%) E-24 E-96	(F±1.0%) E-24 E-96	(G±2.0%) E-24	(J±5.0%) E-24	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
MFS1/4C	0.25W	300V	C: ±50	—	—	49.9 - 562k	10 - 1M *1.02M - 10M	—	—	250V	300V	-55°C to +155°C
MFS1/4D			D: ±100									
MFS1/4L			L: ±200					2.2 - 2.2M				

* Note: MFS1/4, 1.0% Resistance Range: 1.02M-10M is available in C(SnCu) termination material only

Specifications given herein may be changed at any time without prior notice. Please confirm technical specifications before you order and/or use.

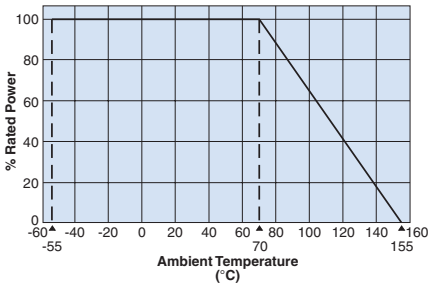
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applications and ratings

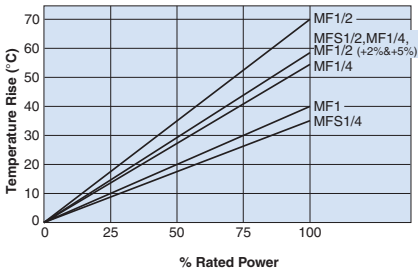
Part Designation	Power Rating @ 70°C	Minimum Dielectric Withstanding Voltage	T.C.R. (ppm/°C)	Resistance Range (Ω) (B±0.1%) E-96	(C±0.25%) E-96	(D±0.5%) E-24 E-96	(F±1.0%) E-24 E-96	(G±2.0%) E-24	(J±5.0%) E-24	Absolute Maximum Working Voltage	Absolute Maximum Overload Voltage	Operating Temperature Range
MF1/4C	0.25W	500V	C: ±50	30.1 - 750K	30.1 - 1.0M	10- 2.21M	1.0 - 2..21M	—	—	250V	500V	-55°C to +155°C
MF1/4D			D: ±100	24.3Ω- 750K	24.3 - 1.0M		1.0 - 3.01M					
MF1/4E			E: ±25	30.1 - 750K	30.1 - 1.0M	30.1 - 1.0M	30.1 - 1.0M					
MF1/4L			L: ±200	—	—	—	1.0 - 10	0.20 - 2.2M	0.20 - 2.2M			
MFS1/2C	0.50W	500V	C: ±50	—	—	—	10 - 2.21M	—	—	350V	700V	
MFS1/2D			D: ±100									
MFS1/2L			L: ±200					2.2 - 2.2M				
MF1/2C	0.50W	700V	C: ±50	47.5- 1.0M	47.5 - 1.5M	10 - 5.05M	10 - 4.99M	—	—	350V	700V	
MF1/2D			D: ±100	—	—							
MF1/2E			E: ±25	47.5- 1.0M	47.5 - 1.5M	47.5 - 2.0M	47.5 - 2.0M					
MF1/2L			L: ±200	—	—	—	1.0 - 10	0.33 - 5.6M	0.33 - 5.6M			
MF1C	1W	700V	C: ±50	47.5Ω - 1.0M	47.5 - 2.49M	10Ω - 5.11M	1.0 - 6.81M	—	—	350V	700V	
MF1D			D: ±100	—	—							
MF1E			E: ±25	47.5 - 2.0M	7.5 - 2.49M	47.5 - 4.64M	47.5 - 5.11M	—	—			
RK1/4D	0.25W	500V	D: ±100	—	—	—	3.09M - 25M	—	—	500V	700V	
RK1/4L			L: ±200	—	—	—	—	3.3M - 33M	3.3M - 33M			
RK1/2D	0.50W	500V	D: ±100	—	—	—	5.11M - 33M	—	—	700V	1000V	
RK1/2L			L: ±200	—	—	—	—	6.2M - 33M	6.2M - 33M			

environmental applications

Derating Curve



Surface Temperature Rise



Performance Characteristics

Parameter	Requirement
Temperature Coefficient	±200ppm/°C
Short Time Overload	±(0.30% + 0.05Ω)
Resistance to Solder Heat	±(0.20% + 0.05Ω)
Moisture Resistance	±1.5%
Load Life	
Failure Rate	<10^{-5}%/1000 hours
Temperature Cycling	±(0.50% + 0.05Ω)
Vibration	±(0.20% + 0.05Ω)
Shock	
Terminal Strength	5 # Minimum
Current Noise	<1.0μv/v/decade
Voltage Coefficient	<20ppm/v
Low Temperature Operation	±(0.30% + 0.05Ω)

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