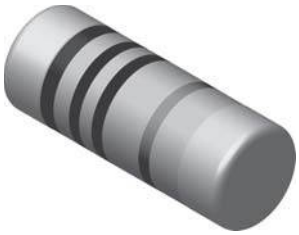
Fusible Carbon Film MELF Resistors



FEATURES

- Fusible resistor for constant voltage designed for overload protection
- Specially spiralled to provide the fusing characteristic
- Flame retardant coating
- Pure tin termination on nickel barrier, plated on press fit steel caps
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

STANDARD ELECTRICAL SPECIFICATIONS

MODEL	POWER RATING (1) P_{70} W	TEMPERATURE COEFFICIENT ppm/K	TOLERANCE %	RESISTANCE RANGE Ω	E-SERIES
LCM0207SI	0.25	+300 / -250	± 5	1 to 9.1	24

Note

(1) Permissible dissipation depends on the maximum temperature at the solder joint, the component placement density PCB layout and the substrate material.

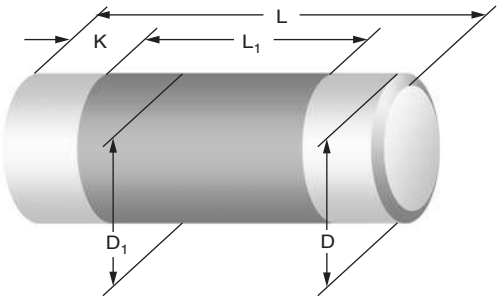
TECHNICAL SPECIFICATIONS

PARAMETER	UNIT	LCM0207SI
Power rating P_{70}	W	0.25
Minimum overload to fuse ≥ 1R0	W	4
Time to fuse	s	≤ 15
Insulation resistance	Ω	≥ 10^{10}
Insulation voltage (1 min), DC or AC_{PEAK}	V	500
Category temperature range	°C	-55 to +125
Failure rate: FITobserved	≤ 0.1 x 10^{-9}/h	

Notes

- The applicable dissipation depends on the temperature at the solder joint, on the component placement density, on the circuit board layout and material.
- The specification of this product is based on a test board according to EN 140400, providing a thermal resistance of approximately 220 K/W.

DIMENSIONS



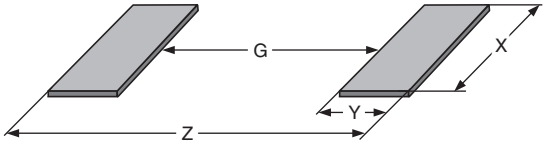
DIMENSIONS AND MASS

TYPE	L (mm)	$D_{MAX.}$ (mm)	$L_{1\ MIN.}$ (mm)	D_1 (mm)	K (mm)	MASS (mg)
LCM0207SI	5.8 + 0/- 0.3	2.2	2.6	D + 0/- 0.2	1.25 ± 0.2	77

Note

- Color code marking is applied according to IEC 60062 in four bands. Each color band appears as a single solid line, voids are permissible if at least 2/3 of the band is visible from each radial angle of view. The last color band for tolerance is approximately 50 % wider than the other bands. An additional 5th yellow band identifies the special fusible type.

PATTERN STYLES FOR MELF RESISTORS



RECOMMENDED SOLDER PAD DIMENSIONS

TYPE	WAVE SOLDERING				REFLOW SOLDERING			
	G (mm)	Y (mm)	X (mm)	Z (mm)	G (mm)	Y (mm)	X (mm)	Z (mm)
LCM0207SI	2.4	2.3	2.6	7.0	2.6	2.0	2.4	6.6

Note

- The given solder pad dimensions reflect the considerations for board design and assembly as outlined e.g. in standards IEC 61188-5-x, or in publication IPC-7351. They do not guarantee any supposed thermal properties, however, they will be found adequate for most general applications.

PART NUMBER AND PRODUCT DESCRIPTION

Part Number: LCM02070B01008JBP00

L	C	M	0	2	0	7	B	0	1	0	0	8	J	B	P	0	0

MODEL	VERSION	TCR	VALUE	TOLERANCE	PACKAGING
LCM0207	**B** = SI; Fusible	**0** = Neutral See datasheet for TC value	**3 digit value** **1 digit multiplier** Multiplier **8** = $*10^{-2}$	**J** = ± 5 %	**BP** **BS**

Product Description: LCM0207SI 1R0 5 % BP

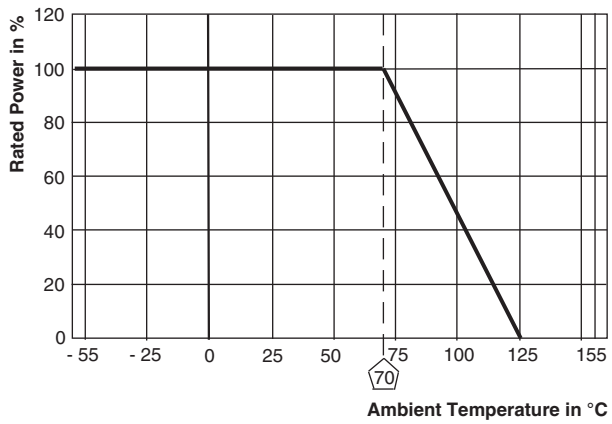
LCM0207SI	1R0	5 %	BP
MODEL	RESISTANCE VALUE	TOLERANCE	PACKAGING
LCM0207SI	**1R0** = 1 Ω	**± 5 %**	**BP** **BS**

Note

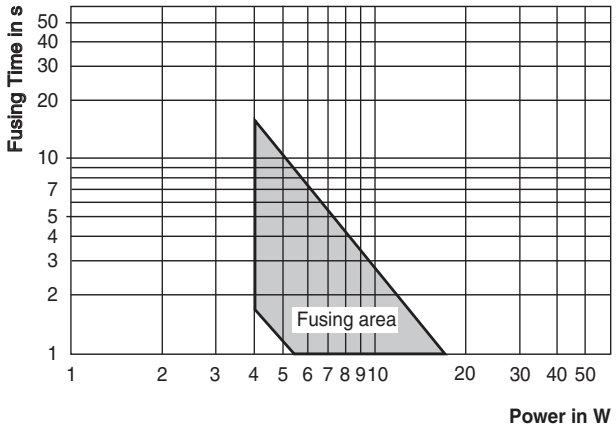
- Products can be ordered using either the PART NUMBER or the PRODUCT DESCRIPTION.

PACKAGING

TYPE	CODE	QUANTITY	CARRIER TAPE	WIDTH	PITCH	REEL DIAMETER
LCM0207SI	BP	1500	Blister tape acc. IEC 60286-3 Type 2a	12 mm	4 mm	180 mm/7"
	BS	7500				330 mm/13"



Derating



Fusing Performance

$U_{max.}$ before Fusing and max. Pulse Voltage

SOLDERING INFORMATION

- For reflow soldering only.
- Board has to be thoroughly cleaned after soldering. All flux materials must be completely removed to ensure fusing performance.

TEST PROCEDURES AND REQUIREMENTS

TEST	CONDITIONS OF TEST	REQUIREMENTS PERMISSIBLE CHANGE (ΔR)
Endurance test at 70 °C IEC 60115-1, 4.25.1	1000 h at 70 °C, 1.5 h “ON”, 0.5 h “OFF”	± 2 % *R*
Endurance at UCT IEC 60115-1, 4.25.3	1000 h at 125 °C without load	± 2 % *R*
Thermal shock IEC 60115-1, 4.19 and IEC 60068-2-14	Rapid change between upper and lower category temperature, 5 cycles	± 0.5 % *R*
Damp heat steady state IEC 60115-1, 4.24 and IEC 60068-2-78	56 days at 40 °C and 93 % relative humidity	± 2 % *R*
Resistance to soldering heat IEC 60115-1, 4.18 and IEC 60068-2-58	10 s at 260 °C solder bath temperature	± 0.25 % *R*

APPLICABLE STANDARDS

- EN 60115-1

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