TAIWAN SEMICONDUCTOR

The Smartest Choice

Small Signal Product

LSR102 - LSR106

1.0 AMP. Surface Mount Schottky Barrier Rectifiers

MELF

Features

- ◇ Surge overload ratings to 25 amperes peak
- ◇ Ideal for printed circuit board
- ◇ Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- ◇ Terminal : Pure tin plated,lead free
- ◇ Mounting position : Any
- ◇ Weight : 0.12 grams

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
LSR102	MELF (Plastic)	5K / 13 " Reel	L0	-	J0

Note : Detail please see "Ordering Information(detail, example)" below.

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	LSR102	LSR103	LSR104	LSR105	LSR106	Units
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	V
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	V
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	V
Maximum Average Forward Rectified Current See Fig.1	$I_{F(AV)}$	1.0					A
Peak Forward Surge Current, 8.3 ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	25					A
Maximum Instantaneous Forward Voltage @1.0 A	V_F	0.55			0.70		V
Maximum DC Reverse Current @T_A=25°C	I_R	1.0					mA
Rated DC Blocking Voltage (Note1) @T_A =125°C		10					
Typical Junction Capacitance (Note2)	Cj	110			80		pF
Typical Thermal Resistance	$R_{\theta JA}$	80					°C/W
Operating Temperature Range	T_J	-65 to + 125			-65 to + 150		°C
Storage Temperature Range	T_{STG}	-65 to + 150					°C

Note : 1. Pulse test with PW = 300 μsec, 1% Duty Cycle

2. Measured at 1 MH_Z and applied reverse voltage of 4.0 V D.C

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RATINGS AND CHARACTERISTIC CURCES (LSR102 - LSR106)

Fig.1 Maximum Forward Current Derating Curve

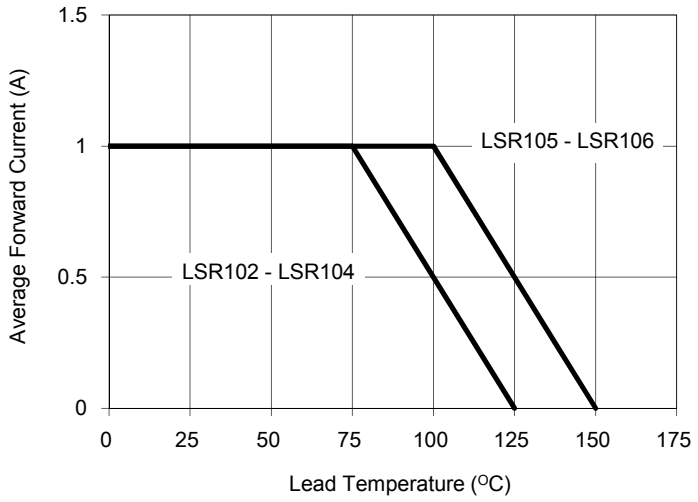

Fig.2 Maximum Non-Repetitive Forward Surge Current

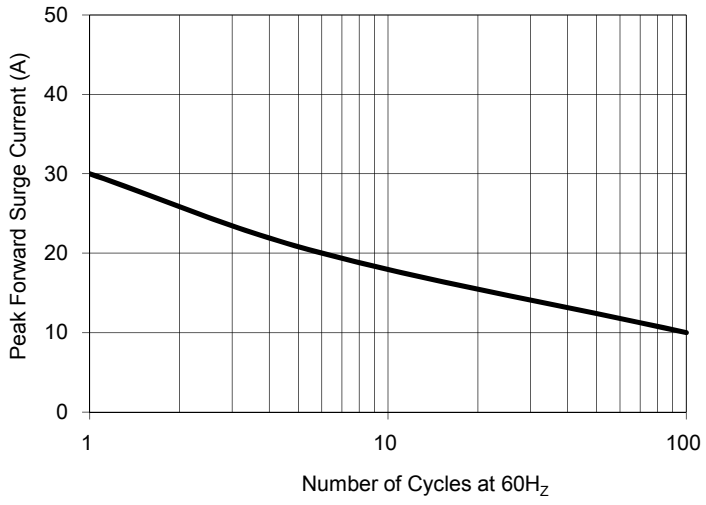

Fig.3 Typical Forward Characteristics

Fig.4 Typical Reverse Characteristics

Fig.5 Typical Junction Capacitance

Fig.6 Typical Transient Thermal Characteristics

Version：E13

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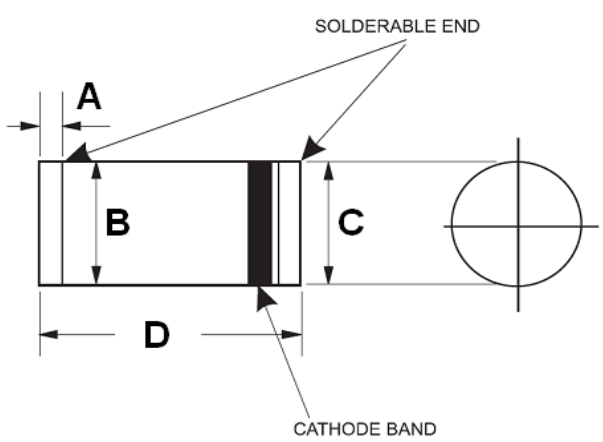
Ordering information (Detail, example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
LSR10X (Note 1)	MELF (Plastic)	5K / 13" Reel	L0	-	(Note 2)
LSR102	MELF (Plastic)	5K / 13" Reel	L0	-	
LSR102	MELF (Plastic)	5K / 13" Reel	L0	-	J0

Note 1 : "X" is Device Code from "2" to "6".

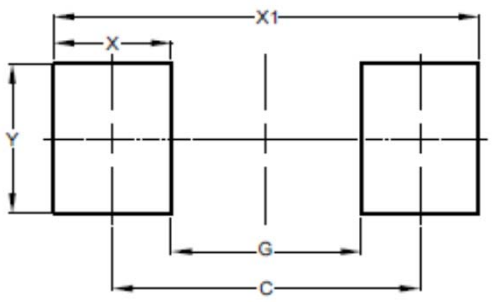
Note 2 : Manufacture special control, if empty means no special control requirement.

Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	0.4	0.6	0.016	0.024
B	2.2	2.5	0.087	0.098
C	2.3	2.7	0.090	0.106
D	4.8	5.2	0.189	0.205

Suggested PAD Layout



DIM.	Unit(mm)	Unit(inch)
	Typ.	Typ.
C	4.80	0.189
G	3.30	0.130
X	1.50	0.059
X1	6.30	0.248
Y	2.70	0.106