

1A, 20 - 60V Schottky Surface Mount Rectifier

FEATURES

- Plastic package has carries underwriters
- Ideal for automated placement
- Surge overload rating to 25A peak
- Reliable low cost construction utilizing molded
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Inverters
- Converters
- Adapters

MECHANICAL DATA

- Case: MELF
- Molding compound meets UL 94V-0 flammability rating
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 120.00mg (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	1	A
V_{RRM}	20 - 60	V
I_{FSM}	25	A
$T_{J\ MAX}$	150	°C
Package	MELF	



MELF

ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	LSR102	LSR103	LSR104	LSR105	LSR106	UNIT
Repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	35	42	V
DC blocking voltage	V_{DC}	20	30	40	50	60	V
Forward current	I_F	1					A
Surge peak forward current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	25					A
Junction temperature	T_J	-65 to +125			-65 to +150		°C
Storage temperature	T_{STG}	-65 to +150					°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-ambient thermal resistance	$R_{\theta JA}$	80	°C/W

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾	LSR102 – LSR104	$I_F = 1.0\text{A}$	V_F	-	0.55	V
	LSR105 – LSR106			-	0.70	
Reverse current @ rated V_R ⁽²⁾		$T_J = 25^\circ\text{C}$	I_R	-	1	mA
		$T_J = 125^\circ\text{C}$		-	10	mA
Junction capacitance	LSR102 – LSR104	1MHz, $V_R = 4.0\text{V}$	C_J	110	-	pF
	LSR105 – LSR106			80	-	

Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

ORDERING INFORMATION		
ORDERING CODE⁽¹⁾	PACKAGE	PACKING
LSR10x L0G	MELF	5,000/13" reel

Notes:

1. "x" defines voltage from 20V(LSR102) – 60V(LSR106)

CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig.1 Forward Current Derating Curve

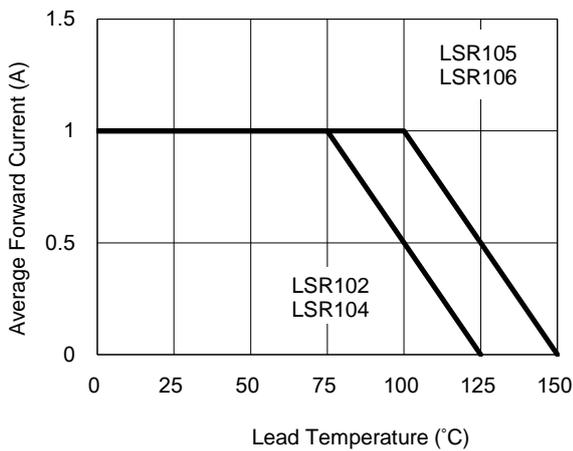


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

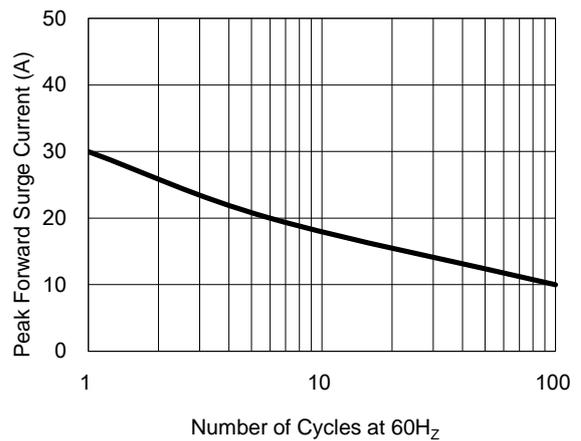


Fig.3 Typical Forward Characteristics

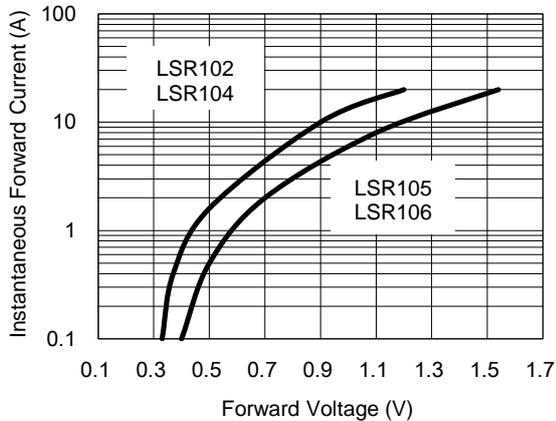


Fig.4 Typical Reverse Characteristics

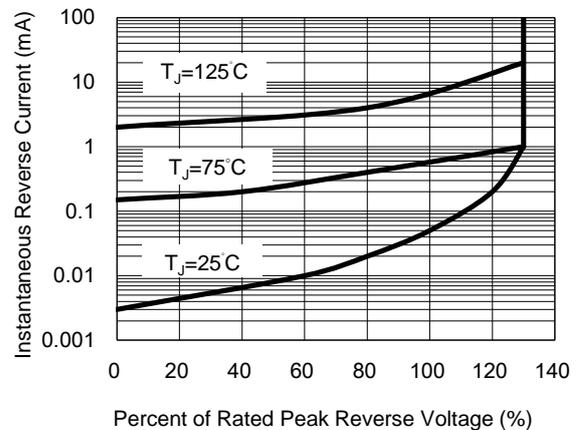


Fig.5 Typical Junction Capacitance

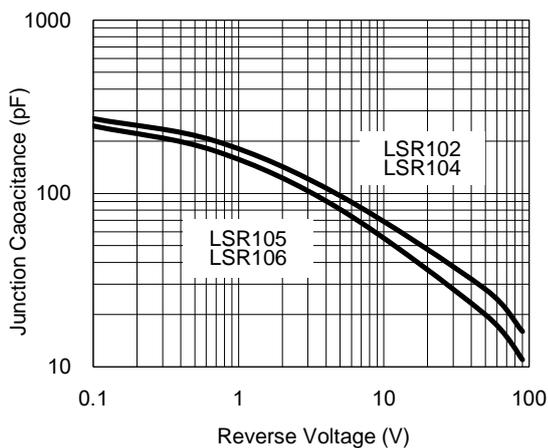
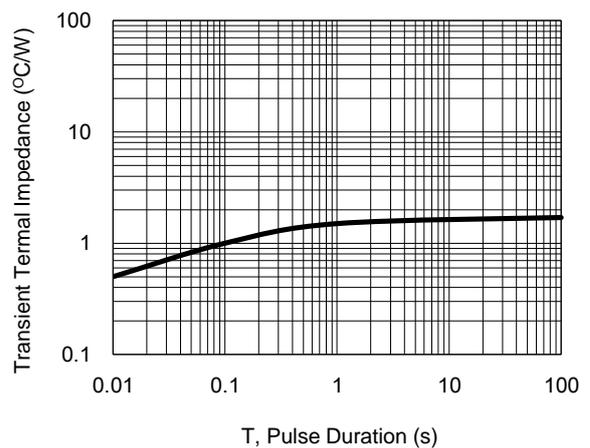
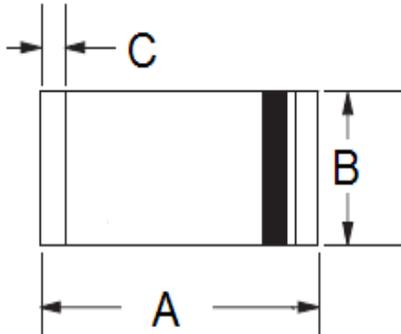


Fig.6 Typical Transient Thermal Impedance



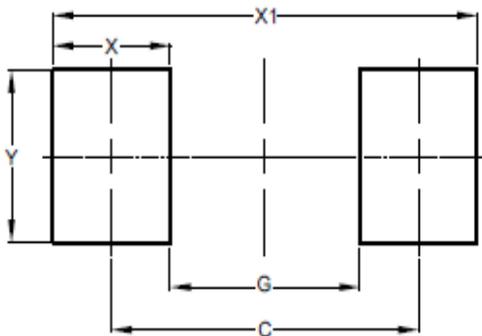
PACKAGE OUTLINE DIMENSIONS

MELF



DIM	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.80	5.50	0.189	0.217
B	2.25	2.67	0.089	0.105
C	0.30	0.60	0.012	0.024

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