

## 1A, 20 - 40V Schottky Barrier 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
- 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 - 40	V
$I_{FSM}$	25	A
$T_{J\ MAX}$	125	°C
Package	MELF	
Configuration	Single die	



MELF



ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	LL5817	LL5818	LL5819	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	20	30	40	V
Reverse voltage, total rms value	$V_{R(RMS)}$	14	21	28	V
DC blocking voltage	$V_{DC}$	20	30	40	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			°C
Storage temperature	$T_{STG}$	-65 to +125			°C

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

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	LL5817	$I_F = 1\text{A}$	$V_F$	-	0.450	V
		$I_F = 3\text{A}$		-	0.750	V
	LL5818	$I_F = 1\text{A}$		-	0.550	V
		$I_F = 3\text{A}$		-	0.875	V
	LL5819	$I_F = 1\text{A}$		-	0.600	V
		$I_F = 3\text{A}$		-	0.900	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$T_J = 25^\circ\text{C}$		$I_R$	-	0.5	mA
	$T_J = 100^\circ\text{C}$			-	5	mA
Junction capacitance	1MHz, $V_R = 4.0\text{V}$		$C_J$	110	-	pF

**Notes:**

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

<b>ORDERING INFORMATION</b>		
ORDERING CODE <sup>(1)</sup>	PACKAGE	PACKING
LL581x L0G	MELF	5,000/13" reel

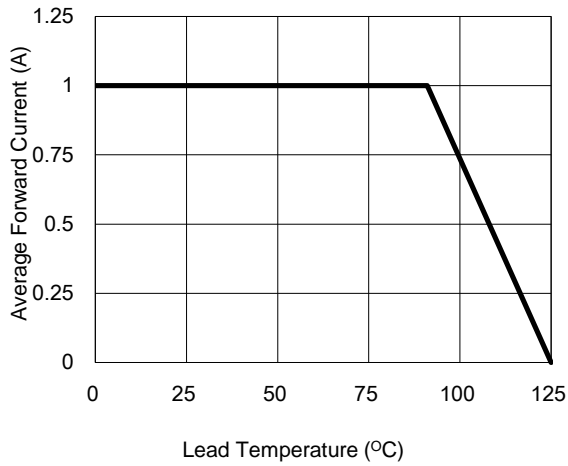
**Notes:**

1. "x" defines voltage from 20V(LL5817) to 40V(LL5819)

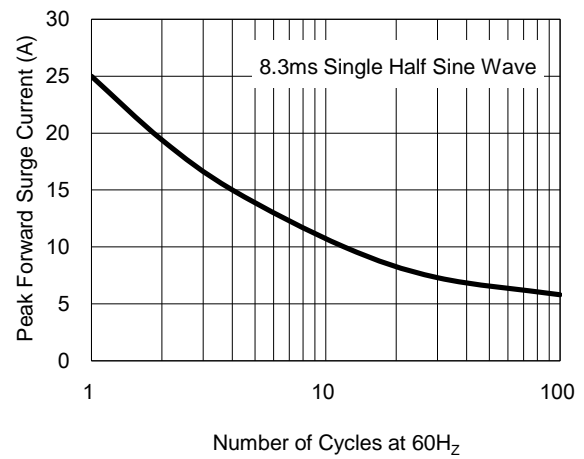
**CHARACTERISTICS CURVES**

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

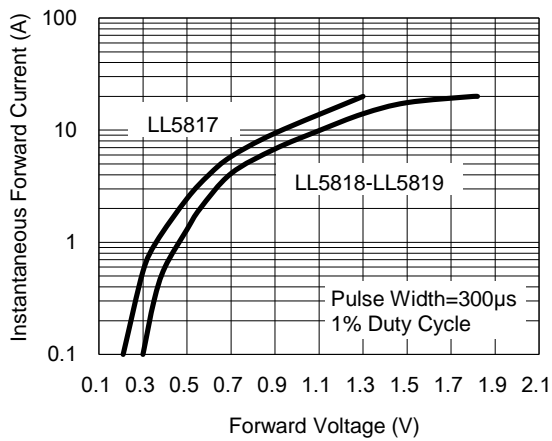
**Fig.1 Forward Current Derating Curve**



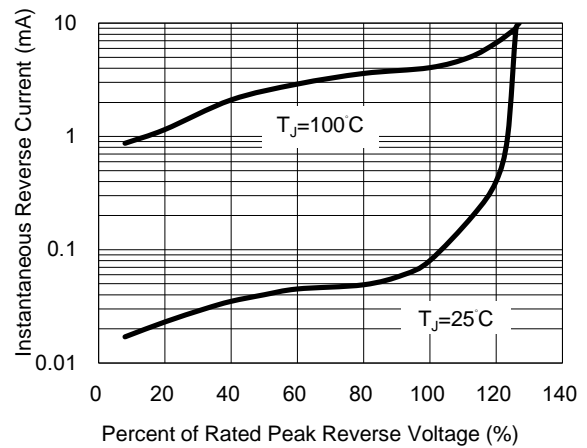
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



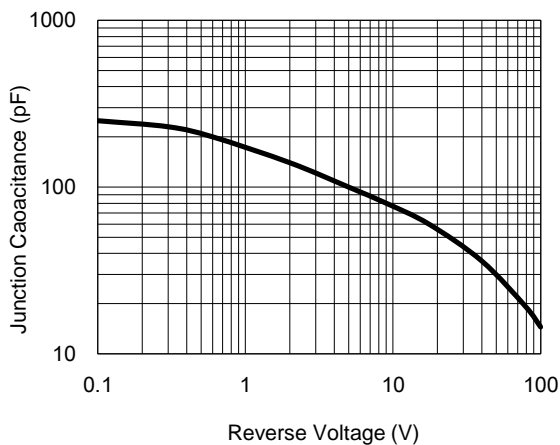
**Fig.3 Typical Forward Characteristics**



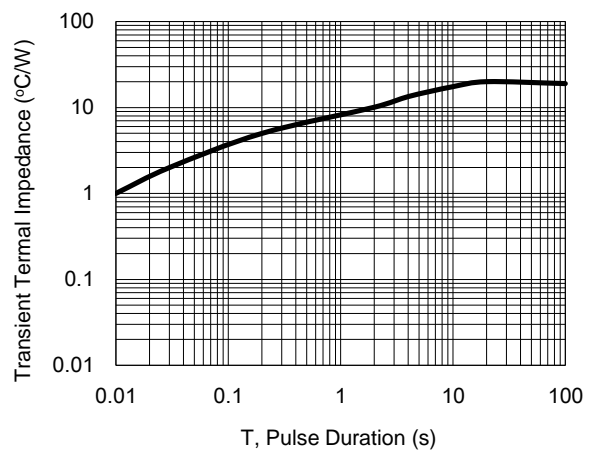
**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Junction Capacitance**

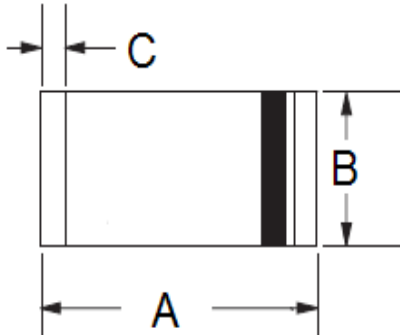


**Fig.6 Typical Transient Thermal Impedance**



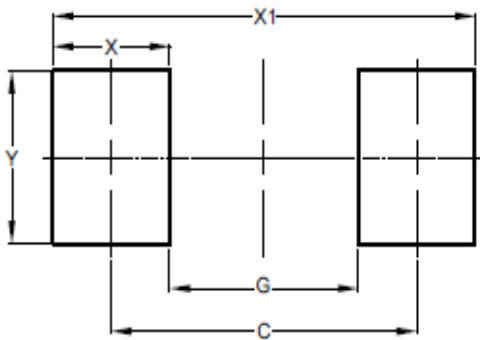
**PACKAGE OUTLINE DIMENSIONS**

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

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