

## Small Signal Product

## High Speed SMD Switching Diode

**FEATURES**

- Fast switching device ( $t_{rr} < 4.0\text{ns}$ )
- Surface device type mounting
- Matte Tin(Sn) terminal finish
- Pb free version and RoHS compliant


**MECHANICAL DATA**

- Case: Mini-MELF Package
- High temperature soldering guaranteed:  $270^{\circ}\text{C}/10\text{s}$
- Polarity: Indicated by black cathode band
- Weight: 31mg (approximately)

**MINI MELF**

Hermetically Sealed Glass



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	$P_D$	500	mW
Repetitive Peak Reverse Voltage	$V_{RRM}$	75	V
Reverse Voltage	$V_R$	75	V
Peak Forward Surge Current (Note 1)	$I_{FSM}$	2	A
Non-Repetitive Peak Forward Current	$I_{FM}$	450	mA
Mean Forward Current	$I_{F(AV)}$	150	mA
Forward Continuous Current	$I_F$	150	mA
Repetitive Peak Forward Current	$I_{FRM}$	450	mA
Thermal Resistance (Junction to Ambient) (Note 2)	$R_{\theta JA}$	300	$^{\circ}\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{STG}$	-65 to +175	$^{\circ}\text{C}$

PARAMETER	SYMBOL	MIN	MAX	UNIT		
Reverse Breakdown Voltage	$V_{(BR)}$	$I_R=100\mu\text{A}$	100	-	V	
		$I_R=5\mu\text{A}$	75	-		
Forward Voltage	$V_F$	-	-	V		
		LL4448, LL914B	$I_F=5\text{ mA}$		0.62	0.72
		LL4148	$I_F=50\text{ mA}$		-	1
		LL4448, LL914B	$I_F=100\text{ mA}$		-	1
Reverse Leakage Current	$I_R$	$V_R=20\text{V}$	-	25	nA	
		$V_R=75\text{V}$	-	5	$\mu\text{A}$	
Junction Capacitance	$C_J$	$V_R=0$ $f=1.0\text{MHz}$	-	4	pF	
Reverse Recovery Time	$t_{rr}$	(Note 3)	-	4	ns	

Note 1: Test condition : 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)

Note 2: Valid provided that electrodes are kept at ambient temperature

 Note 3: Reverse recovery test conditions :  $I_F=I_R=10\text{mA}$ ,  $R_L=100\Omega$ ,  $I_{RR}=1\text{mA}$

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RATINGS AND CHARACTERISTICS CURVES

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

Fig. 1 Typical Forward Characteristics

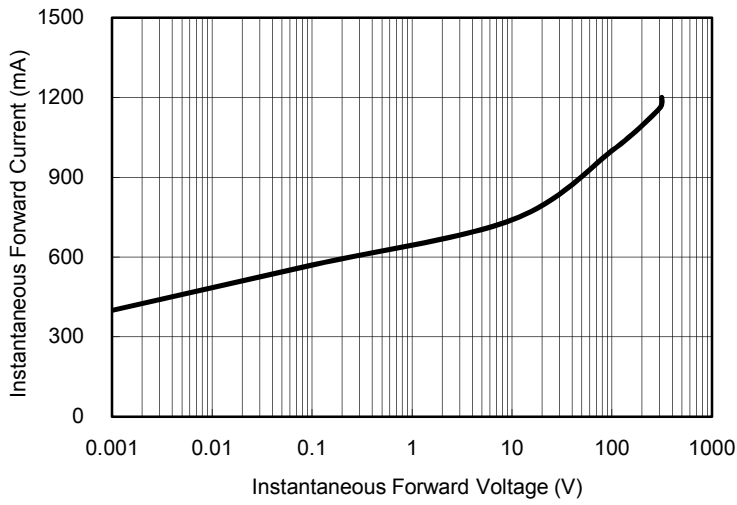


Fig. 2 Reverse Current VS. Reverse Voltage

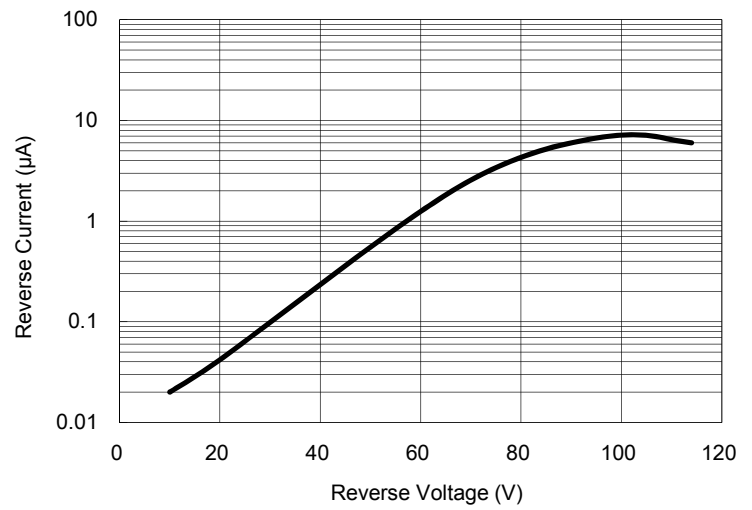


Fig. 3 Admissible Power Dissipation Curve

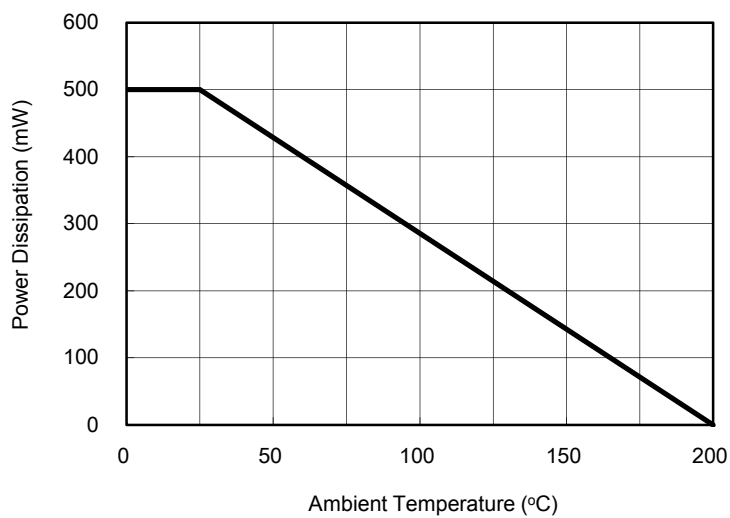


Fig. 4 Typical Junction Capacitance

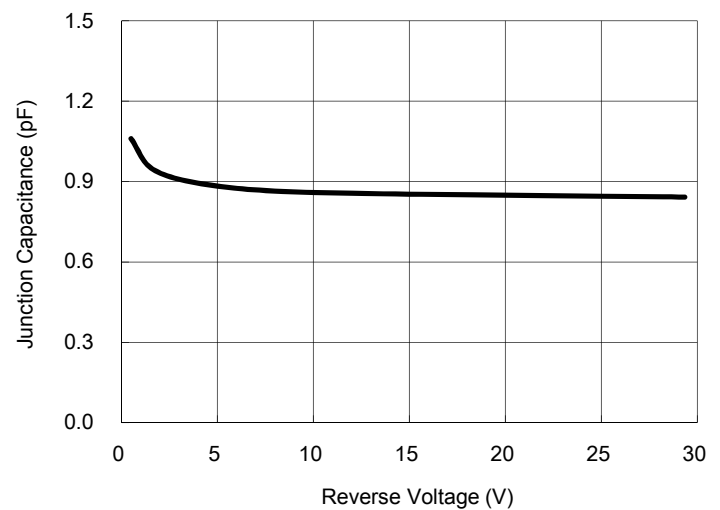
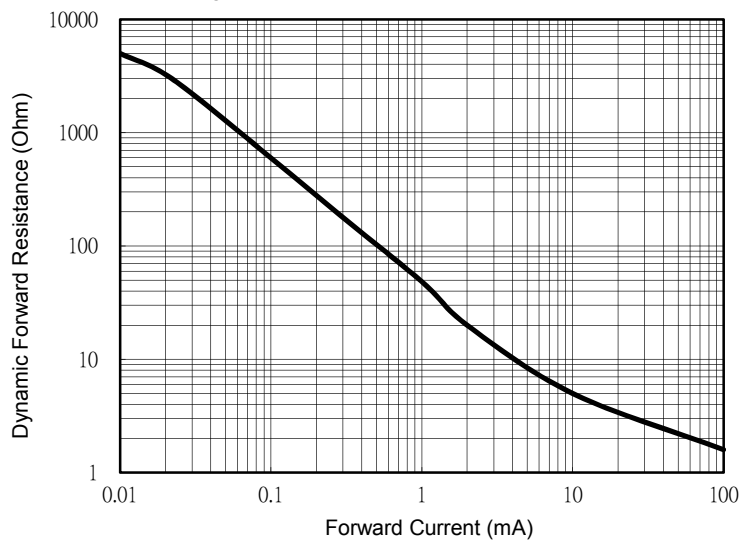


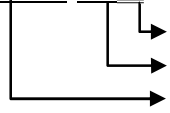
Fig. 5 Forward Resistance VS. Forward Current



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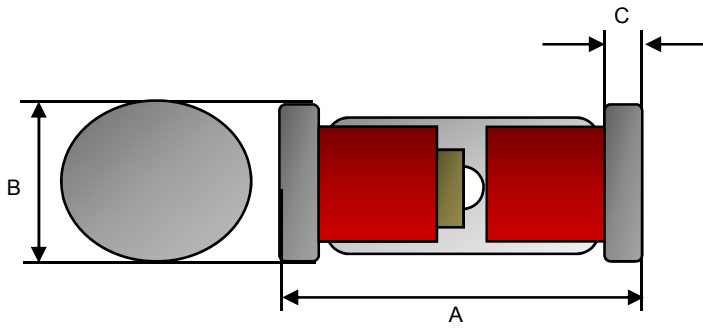
ORDER INFORMATION (EXAMPLE)

LL4148 LOG



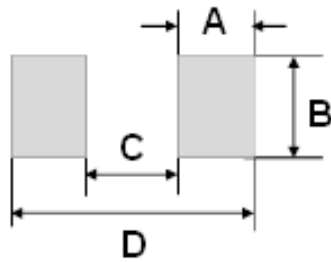
Green compound code  
Packing code  
Part no.

PACKAGE OUTLINE DIMENSION



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	3.30	3.70	0.130	0.146
B	1.40	1.60	0.055	0.063
C	0.20	0.50	0.008	0.020

SUGGEST PAD LAYOUT



DIM.	Unit (mm)	Unit (inch)
	Typ.	Typ.
A	1.25	0.049
B	2.00	0.079
C	2.50	0.098
D	5.00	0.197

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