

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


MINI MELF
MECHANICAL DATA

- Case: Mini-MELF Package
- High temperature soldering guaranteed: 270°C/10s
- Polarity: Indicated by black cathode band
- Weight: 31mg (approximately)

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	$^\circ\text{C/W}$
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	μA	
Junction Capacitance	C_J	$V_R = 0$ $f = 1.0\text{MHz}$	-	4	pF	
Reverse Recovery Time (Note 3)	t_{rr}	-	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

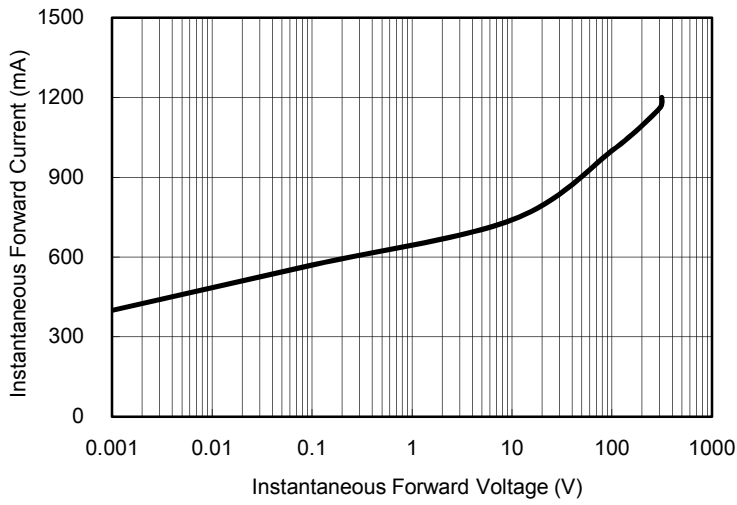


Fig. 2 Reverse Current VS. Reverse Voltage

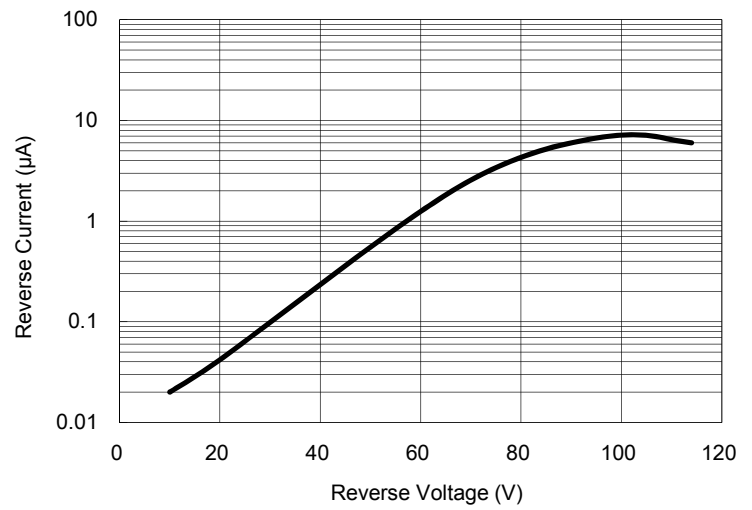


Fig. 3 Admissible Power Dissipation Curve

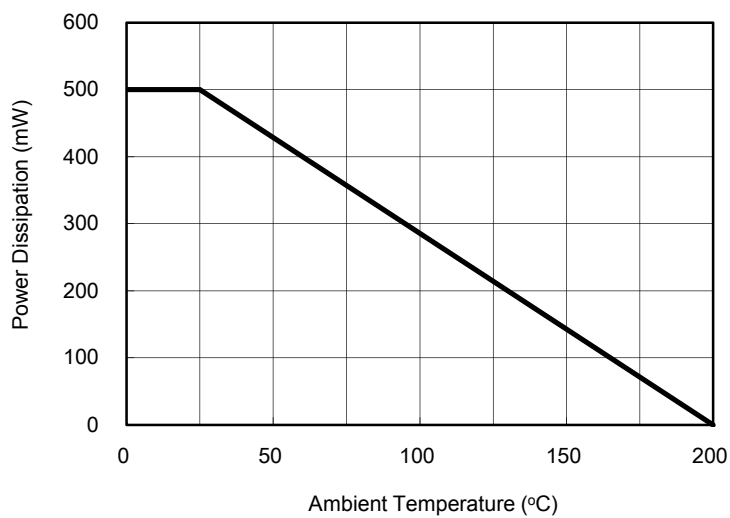


Fig. 4 Typical Junction Capacitance

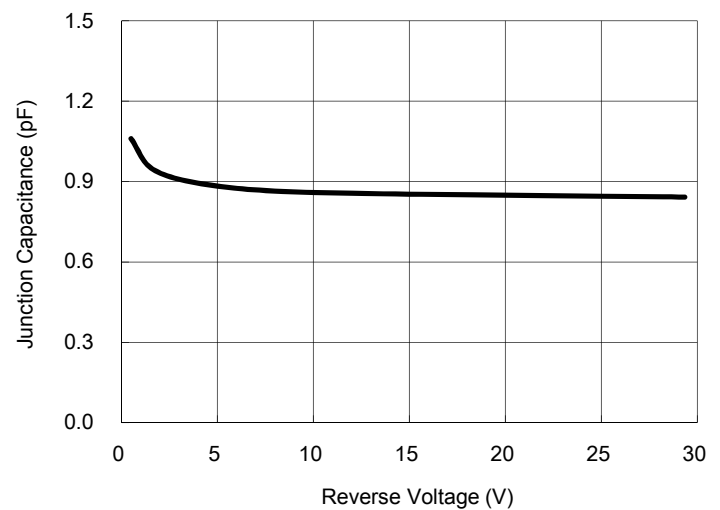
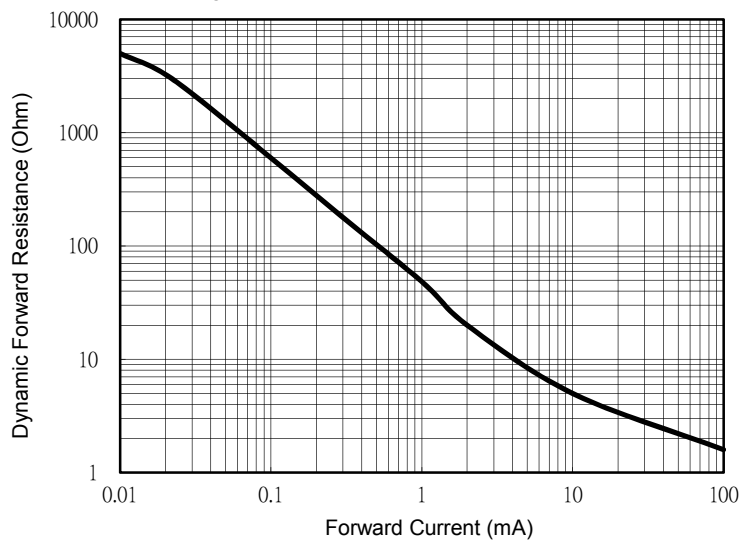


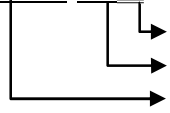
Fig. 5 Forward Resistance VS. Forward Current



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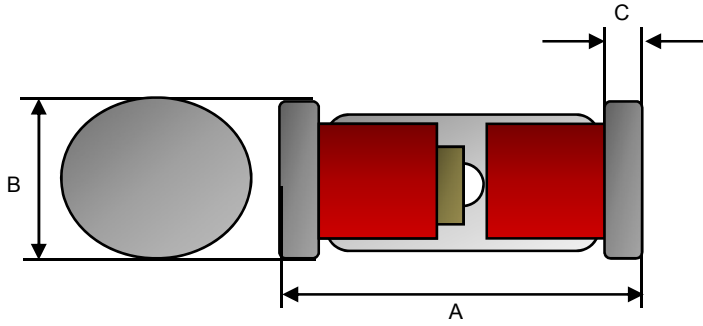
ORDER INFORMATION (EXAMPLE)

LL4148 LOG



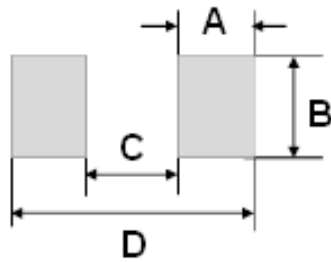
Green compound code
Packing code
Part no.

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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