

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 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	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

(TA=25°C unless otherwise noted)

Fig. 1 Typical Forward Characteristics

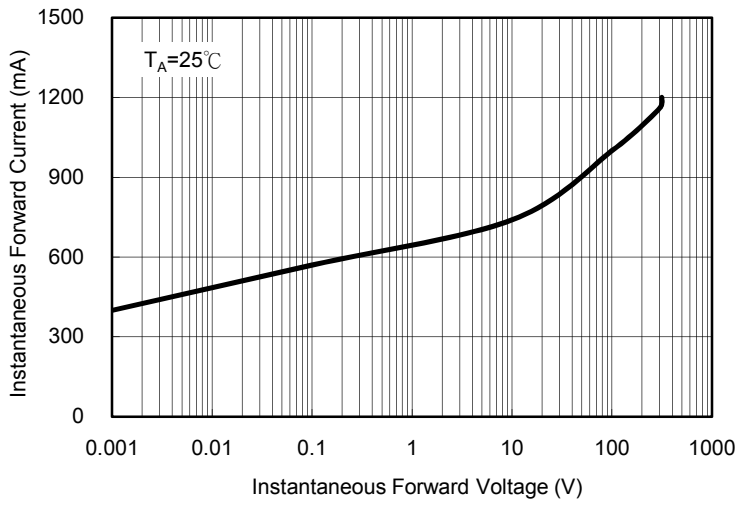


Fig. 2 Reverse Current VS. Reverse Voltage

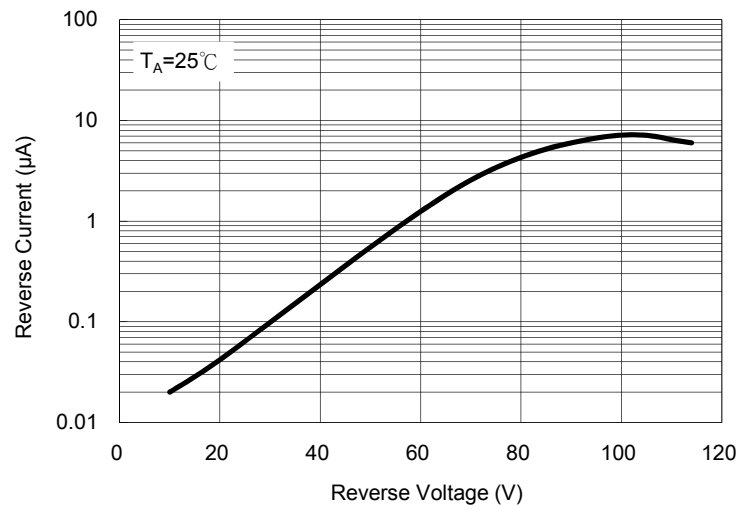


Fig. 3 Admissible Power Dissipation Curve

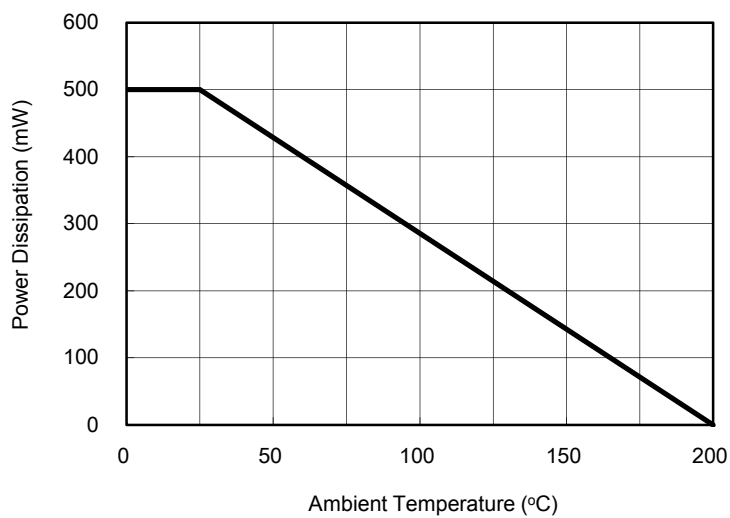


Fig. 4 Typical Junction Capacitance

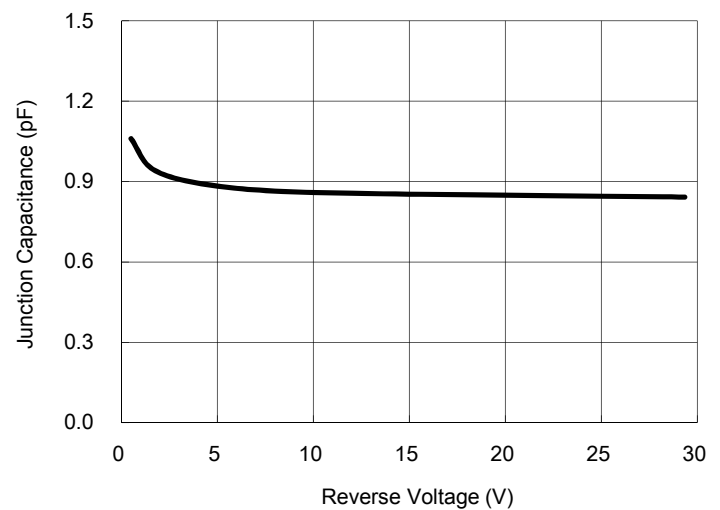
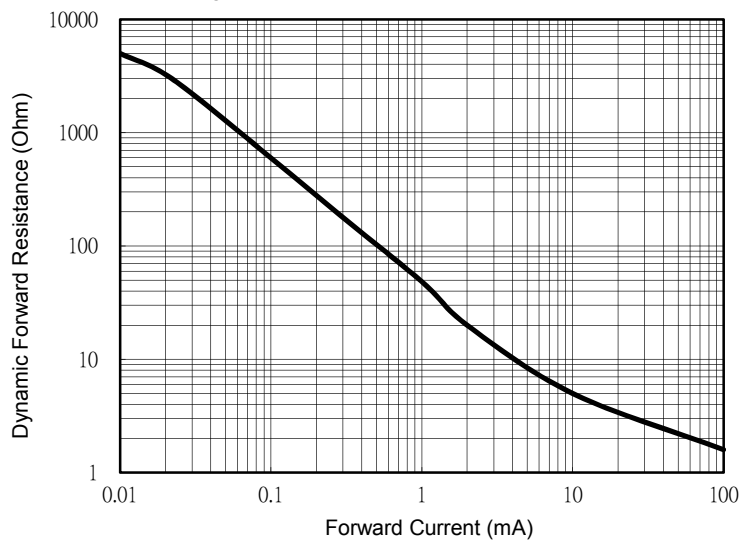


Fig. 5 Forward Resistance VS. Forward Current



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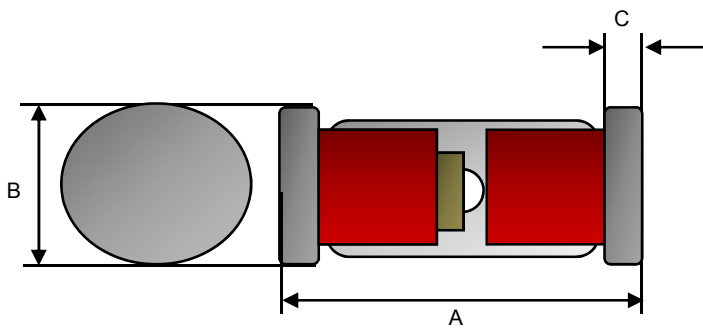
ORDERING INFORMATION					
PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
LLxxxx (Note1)	(Note 2)	L0	G	MINI MELF	10K / 13" Reel
		L1			2.5K / 7" Reel

Note 1: "xxxx" is Device Code from "4148" thru "914B".

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

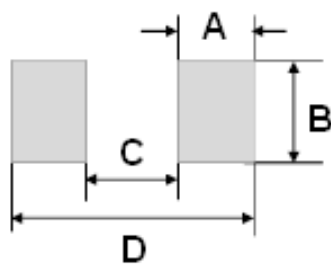
EXAMPLE					
PREFERRED P/N	PART NO.	MANUFACTURE CODE	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
LL4148 L0G	LL4148		L0	G	Green compound
LL4148-L0 L0G	LL4148	L0	L0	G	Green compound

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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