

## Small Signal Product

## 500mW High Speed SMD Switching Diode

**FEATURES**

- Fast switching device ( $t_{rr} < 4.0\text{ns}$ )
- Surface device type mounting
- Moisture sensitivity level 1
- Matte Tin (Sn) lead finish with Nickel (Ni) underplate
- Pb free version and RoHS compliant
- All external surfaces are corrosion resistant and leads are readily solderable


**QUADRO Mini-MELF (LS34)**
**MECHANICAL DATA**

- Case: QUADRO Mini-MELF Package
- High temperature soldering guaranteed :  $270^{\circ}\text{C}/10\text{s}$
- Polarity : Indicated by black cathode band
- Weight :  $29 \pm 2.5\text{mg}$



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	$P_D$	500	mW
Non-Repetitive Peak Reverse Voltage	$V_{RSM}$	100	V
Repetitive Peak Reverse Voltage	$V_{RRM}$	75	V
Peak Forward Surge Current	$I_{FSM}$	2	A
Non-Repetitive Peak Forward Current	$I_{FM}$	450	mA
Mean Forward Current	$I_O$	150	mA
Thermal Resistance (Junction to Ambient) (Note 1)	$R_{\theta JA}$	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 Current $I_R=100\mu\text{A}$ $I_R=5\mu\text{A}$	$V_{(BR)}$	100	-	V
		75	-	
Forward Voltage LS4448, LS914B $I_F=5.0\text{mA}$ LS4148 $I_F=10.0\text{mA}$ LS4448, LS914B $I_F=100.0\text{mA}$	$V_F$	-	0.72	V
		-	1.0	
		-	1.0	
Reverse Leakage Current $V_R=20\text{V}$ $V_R=75\text{V}$	$I_R$	-	25	nA
		-	5.0	$\mu\text{A}$
Junction Capacitance $V_R=0, f=1.0\text{MHz}$	$C_J$	-	4.0	pF
Reverse Recovery Time (Note 2)	$t_{rr}$	-	4.0	ns

Note 1: Valid provided that electrodes are kept at ambient temperature

 Note 2: Reverse recovery test conditions:  $I_F=10\text{mA}$  to  $I_R=1\text{mA}$ ,  $R_L=100\Omega$ ,  $V_{RR}=6\text{V}$

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

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

Fig. 1 Typical Forward Characteristics

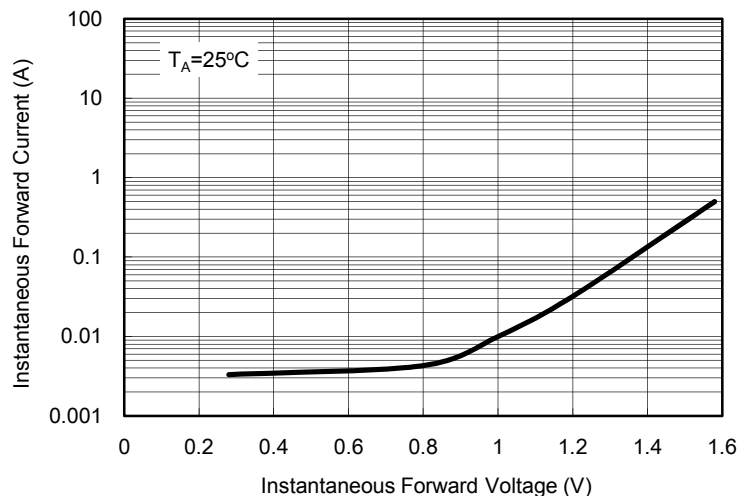


Fig. 2 Reverse Current VS. Reverse Voltage

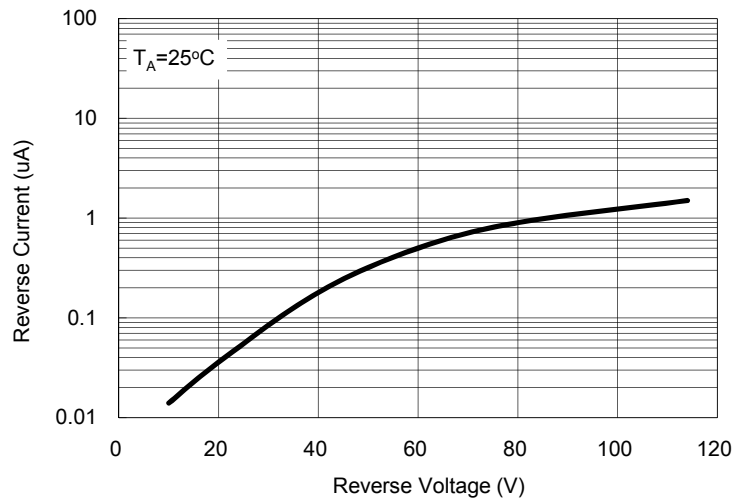


Fig. 3 Admissible Power Dissipation Curve

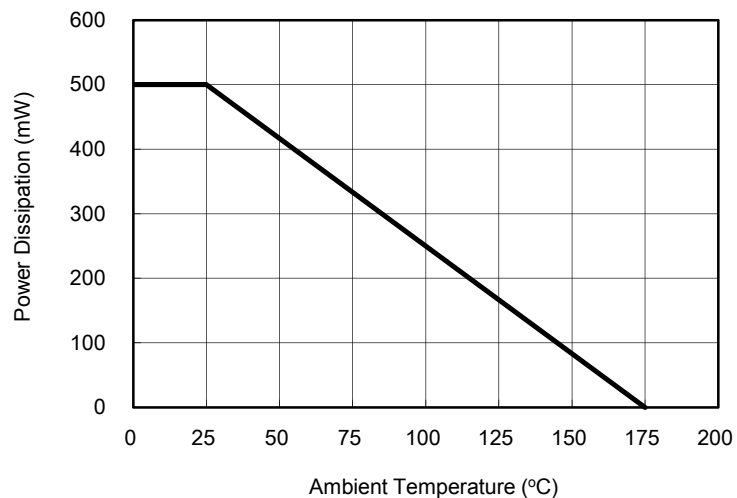


Fig. 4 Typical Junction Capacitance

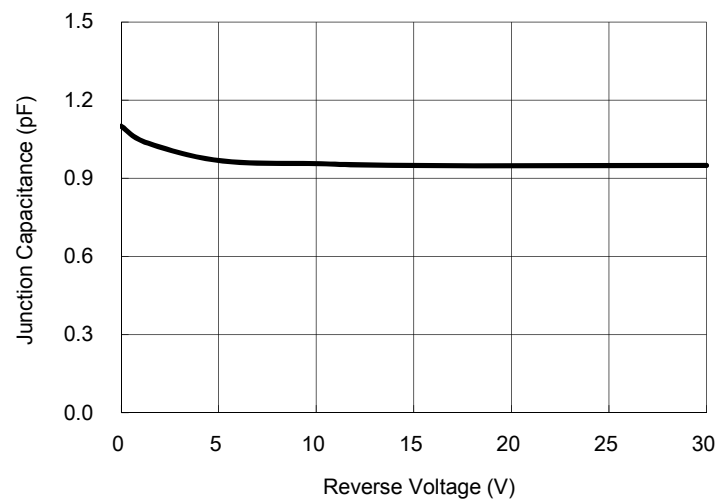
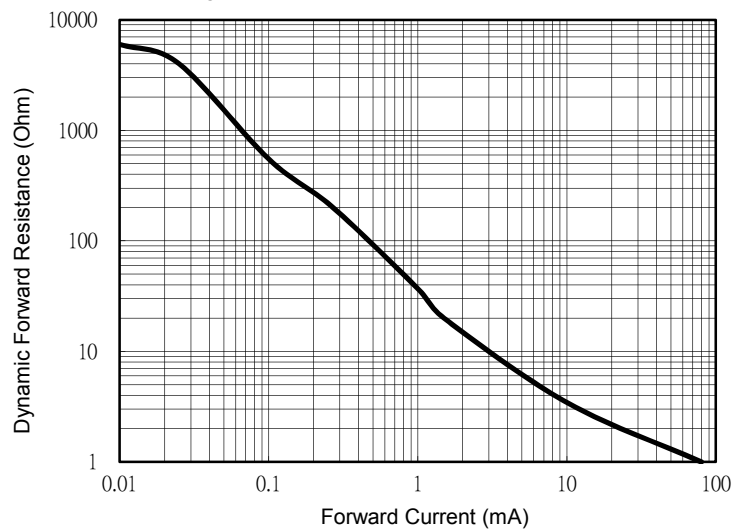


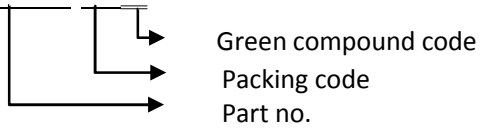
Fig. 5 Forward Resistance VS. Forward Current



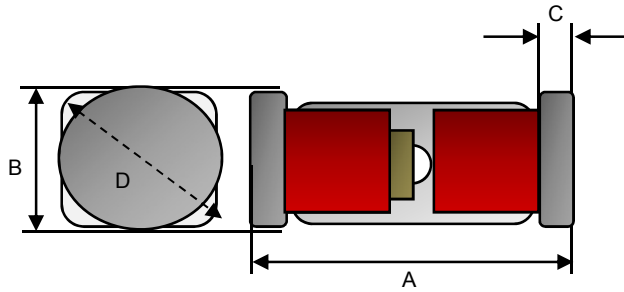
Small Signal Product

ORDER INFORMATION (EXAMPLE)

LS4148 LOG

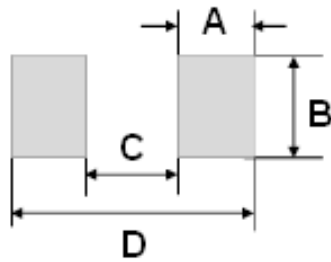


PACKAGE OUTLINE DIMENSION



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	0.45	0.008	0.018
D	Typ. 1.8		Typ. 0.071	

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

Small Signal Product

### Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.