Small Signal Product

500mW Hermetically Sealed Glass Fast Switching Diodes

FEATURES

- Small hermetically sealed glass SMD package
- High switching speed: Max. 4 ns
- Continuous reverse voltage: Max. 75V
- Repetitive peak reverse voltage: Max. 75V
- Repetitive peak forward current: Max. 450 mA

SOD80C

Hermetically Sealed Glass

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

- Polarity: Indicated by black cathode band

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Repetitive Peak Reverse Voltage	V_{RRM}	75	V
Continuous Reverse Voltage	V_R	75	V
Continuous Forward Current Fig. 2, (Note 1)	I_F	200	mA
Repetitive Peak Forward Current	I_{FRM}	450	mA
Non-Repetitive Peak Forward Surge Current			
Square Wave : T_J=25°C Prior to Surge : See Fig. 4			
t=1μs	I_{FSM}	4	A
t=1ms		1	
t=1s		0.5	
Total Power Dissipation T_{amb}=25°C, (Note 1)	P_{tot}	500	mW
Operating Junction Temperature	T_J	200	°C
Storage Temperature Range	T_{STG}	-65 to 200	°C

PARAMETER		SYMBOL	MIN	MAX	UNIT
Forward Voltage	See Fig. 3 I_F=10mA	V_F	-	1.0	V
Reverse Leakage Current	V_R=20V See Fig. 5	I_R	-	25.0	nA
	V_R=20V T_j=150°C		-	50.0	μA
Junction Capacitance	V_R=0 f=1.0MHz	C_J	-	4.0	pF
Reverse Recovery Time	(Note 2)	t_{rr}	-	4.0	ns
Forward Recovery Voltage	I_F=50 mA tr=20ns	V_{fr}	-	2.5	V

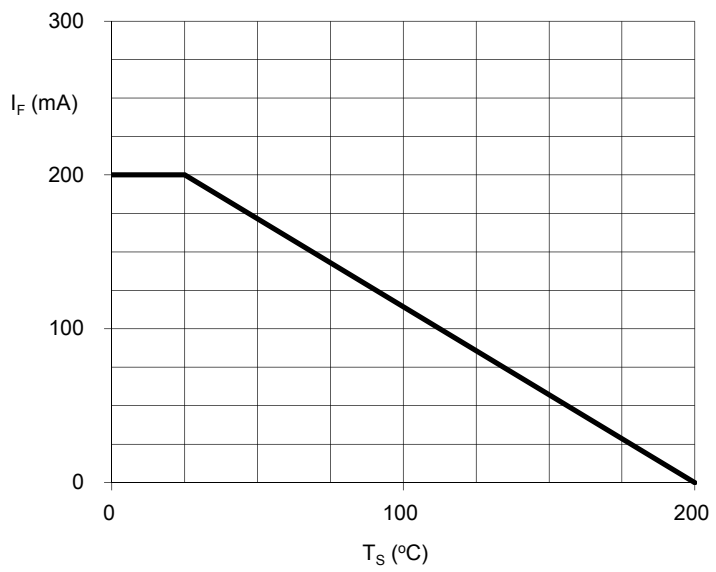
Note 1 : Device mounted on an FR4 printed-circuit board

Note 2 : Reverse recovery test conditions : I_F=10mA, I_R=60mA, R_L=100Ω, I_{RR}=1m A

RATINGS AND CHARACTERISTICS CURVES

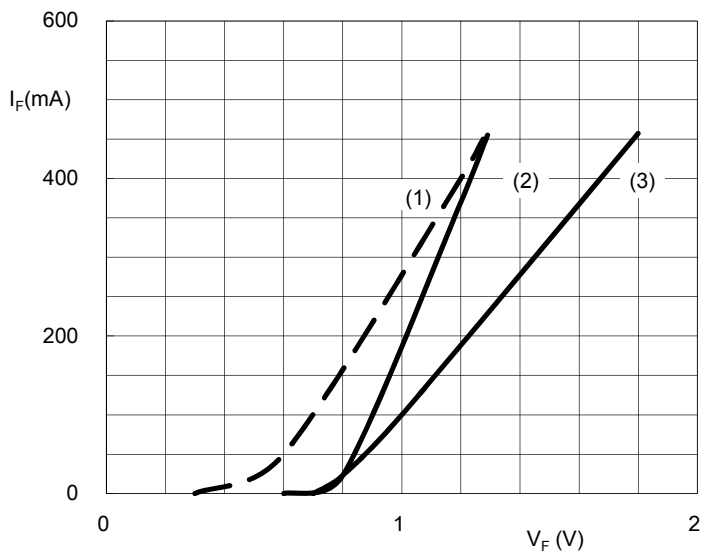
(T_A=25°C unless otherwise noted)

Fig. 1 Maximum Permissible Continuous Forward Current As A Function of Ambient Temperature



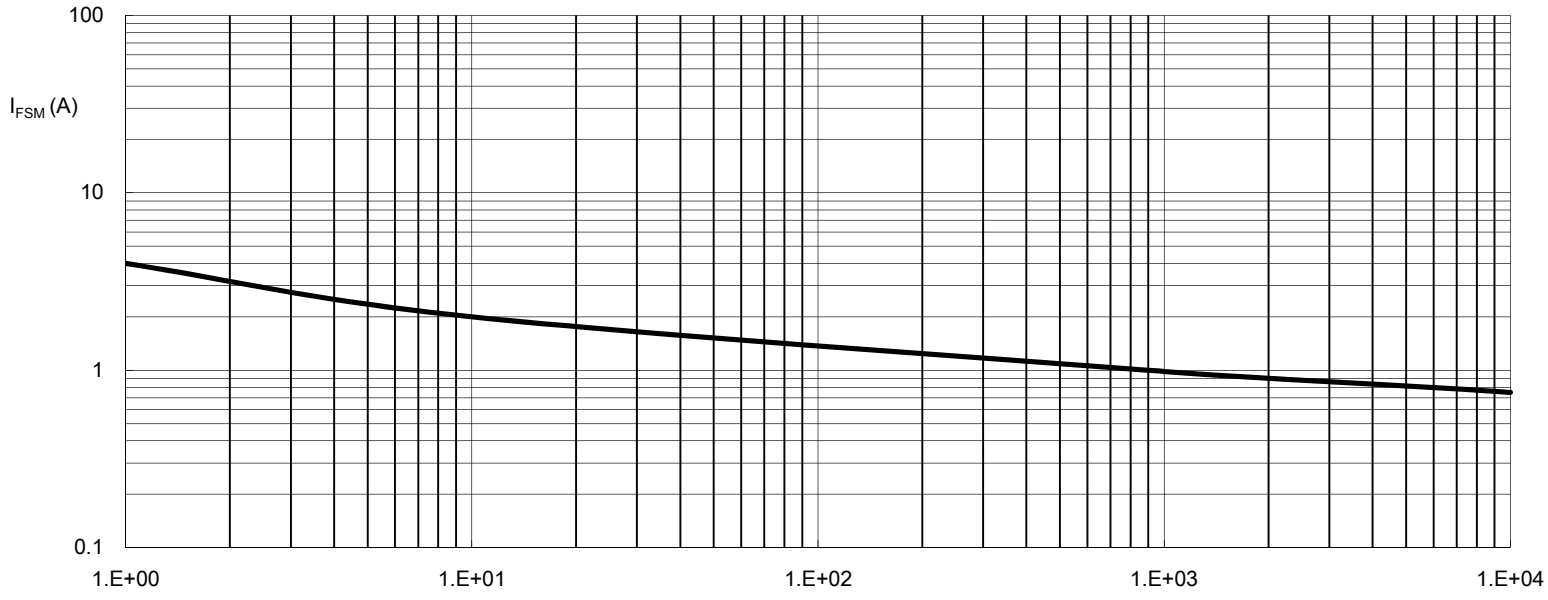
Device mounted on an FR4 printed-circuit

Fig. 2 Forward Current As A Function of Forward Voltage



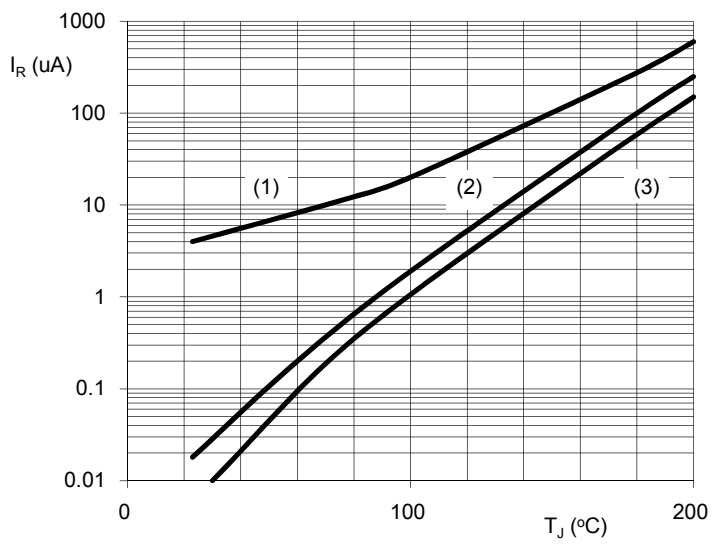
(1) T_j=175°C; typical values
(2) Tj=25°C ; typical values
(3) Tj=25°C; maximum values

Fig. 3 Maximum Permissible Non-Repetitive Peak Forward Current As A Function of Pulse Duration



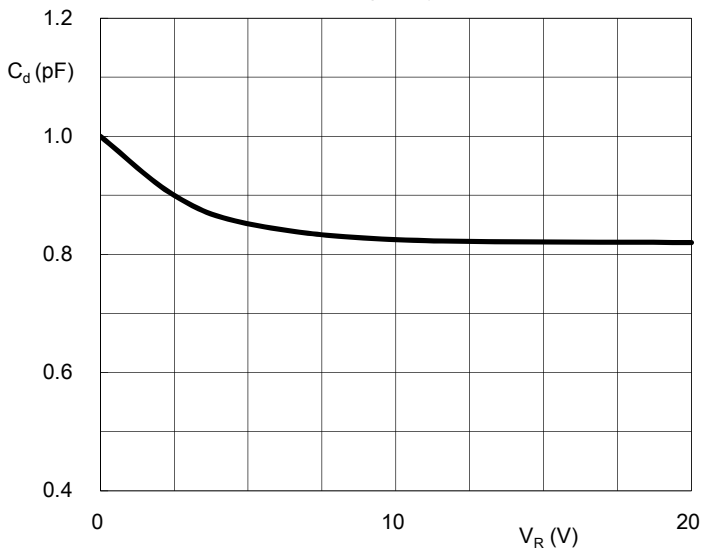
Based on square wave currents
T_j=25°C prior to surge

Fig. 4 Reverse Current As A Function of Junction Temperature



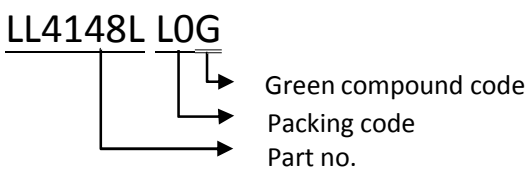
(1) V_R=75V ; maximum values
(2) V_R=75V ; typical values
(3) V_R=20V ; typical values

Fig. 5 Diode Capacitance As A Function of Reverse Voltage ; Typical Values

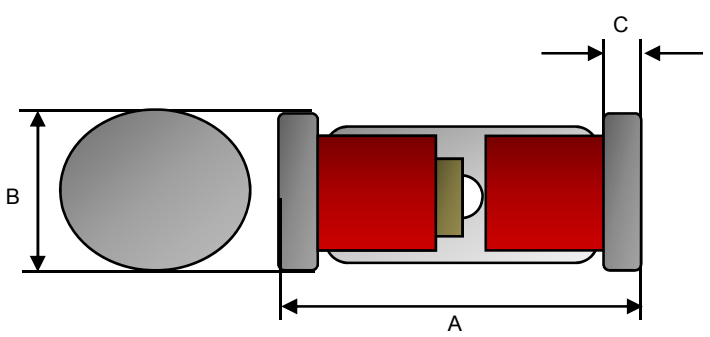


f = 1MHz ; Tj = 25°C

ORDER INFORMATION (EXAMPLE)

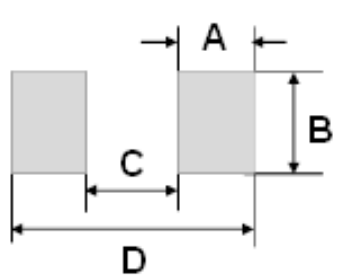


PACKAGE OUTLINE DIMENSION



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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