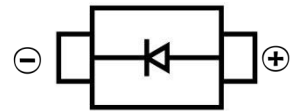


**SUPER FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

- Glass passivated junction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- Super fast recovery time
- Surface Mount device


**SMC**

**MECHANICAL DATA**

- Case: SMC(DO-214AB)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.21 grams (approximate)

**MAXIMUM RATINGS AND CHARACTERISTICS(T<sub>A</sub> = 25°C unless otherwise noted)**

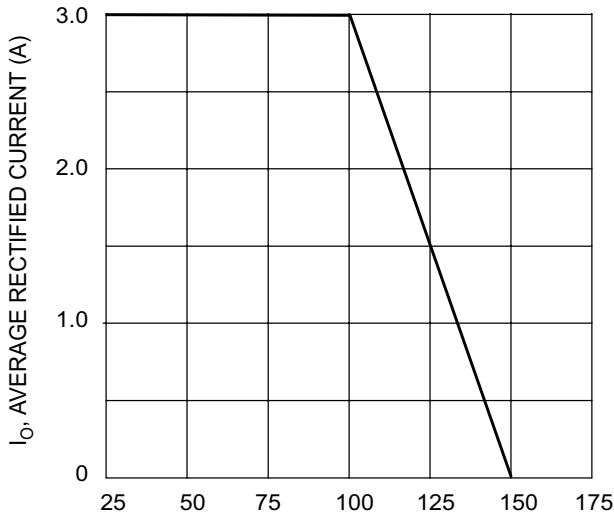
Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	600	V
DC Blocking Reverse Voltage	V <sub>R</sub>	600	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	420	V
Maximum Average Forward Rectified Current	I <sub>F</sub>	3	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I <sub>FSM</sub>	100	A
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	20	°C/W
Reverse Recovery Time(@I <sub>F</sub> =0.5A, I <sub>R</sub> =1.0A, I <sub>RR</sub> =0.25A)	t <sub>rr</sub>	35	nS
Junction Temperature	T <sub>J</sub>	-55 ~+150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)**

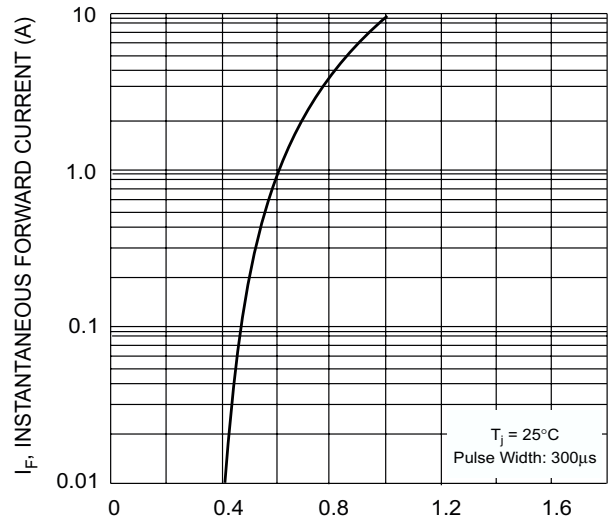
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V <sub>F</sub>			1.70	V	I <sub>F</sub> =3A
Reverse current @T <sub>A</sub> =25°C	I <sub>R</sub>			10	μA	V <sub>R</sub> =600V
Reverse current @T <sub>A</sub> =125°C	I <sub>R</sub>			500	μA	V <sub>R</sub> =600V
Diode capacitance	C <sub>D</sub>		40		pF	V <sub>R</sub> =4V,f=1MHz

**SUPER FAST RECOVERY RECTIFIER DIODE**

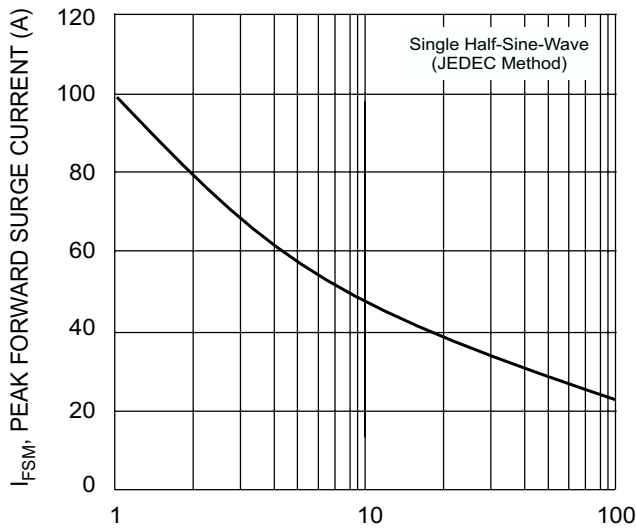
**Typical Characteristics**



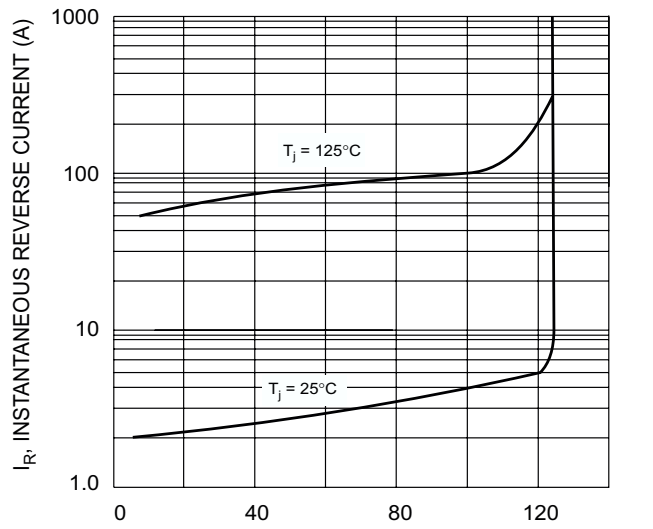
$T_T$ , TERMINAL TEMPERATURE (°C)  
Fig. 1 Forward Current Derating Curve



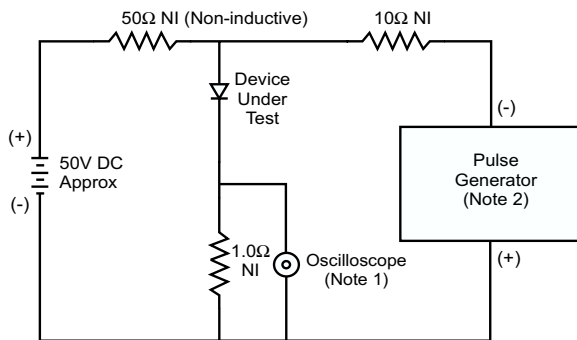
$V_F$ , INSTANTANEOUS FORWARD VOLTAGE (V)  
Fig. 2 Typical Forward Characteristics



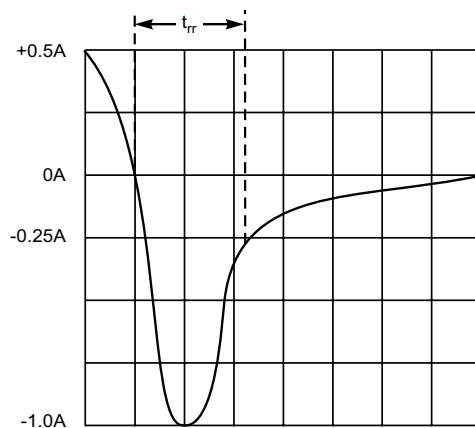
NUMBER OF CYCLES AT 60Hz  
Fig. 3 Surge Current Derating Curve



PERCENT OF RATED PEAK REVERSE VOLTAGE (%)  
Fig. 4 Typical Reverse Characteristics

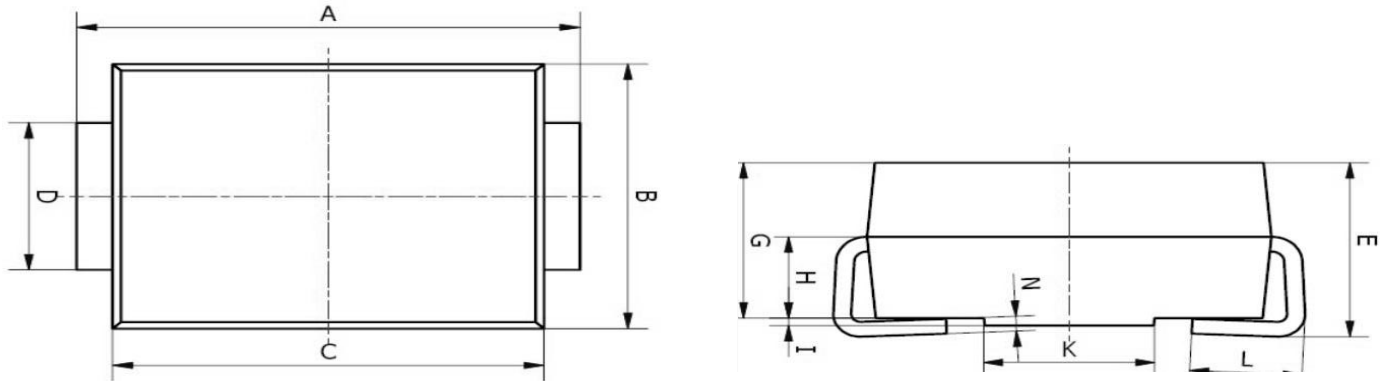


Notes:  
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.  
2. Rise Time = 10ns max. Input Impedance = 50Ω.

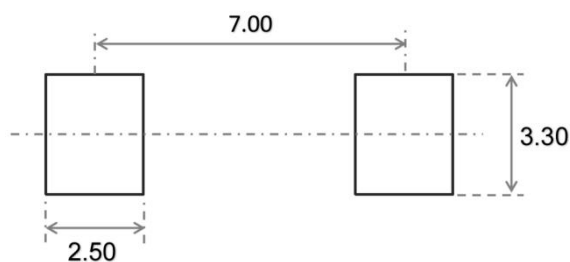


Set time base for 50/100 ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

**SUPER FAST RECOVERY RECTIFIER DIODE**
**SMC Package Outline Dimensions**


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	7.75	8.13	0.305	0.320
B	5.59	6.22	0.220	0.245
C	6.60	7.11	0.260	0.280
D	2.75	3.25	0.108	0.128
E	2.25	2.82	0.089	0.111
G	2.00	2.62	0.079	0.103
H	1.26	1.56	0.050	0.061
I	0.05	0.15	0.002	0.006
K	4.30	6.00	0.169	0.236
L	1.25	1.75	0.049	0.069
N	0.10	0.30	0.004	0.012

**SMC Suggested Pad Layout**

**Note:**

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

