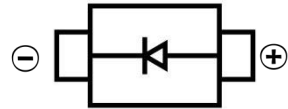


SUPER FAST RECOVERY RECTIFIER DIODE
FEATURES

- 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)
- Marking:ES3J

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

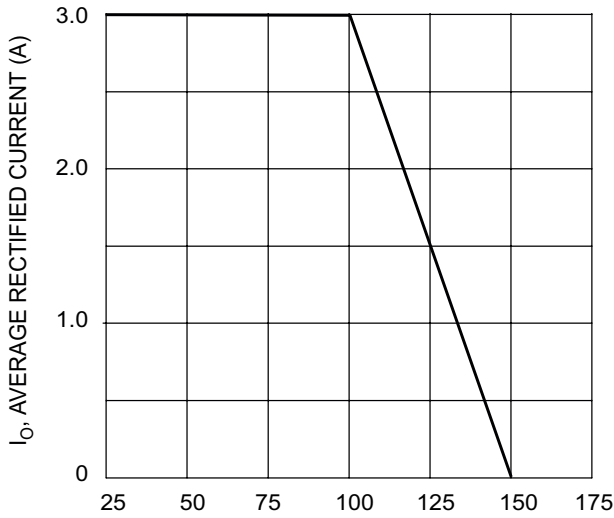
Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	600	V
DC Blocking Reverse Voltage	V _R	600	V
RMS Reverse Voltage	V _{R(RMS)}	420	V
Maximum Average Forward Rectified Current	I _F	3	A
Non-Repetitive Peak Forward Surge Current @t=8.3ms	I _{FSM}	100	A
Thermal Resistance From Junction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

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

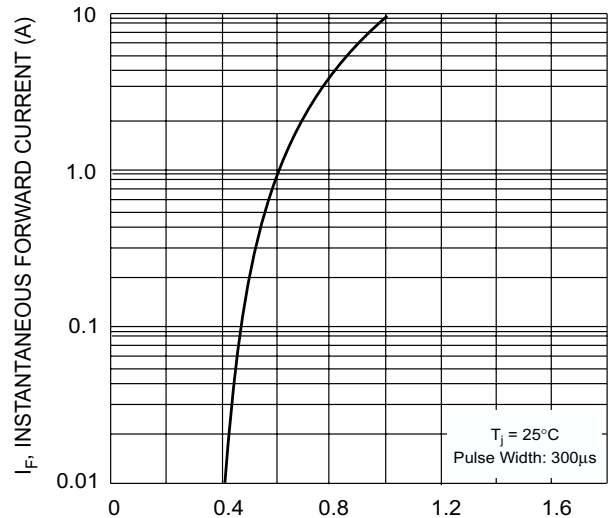
Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	V _F			1.70	V	I _F =3A
Reverse current @T _A =25°C	I _R			10	μA	V _R =600V
Reverse current @T _A =125°C	I _R			500	μA	V _R =600V
Diode capacitance	C _D		40		pF	V _R =4V,f=1MHz

SUPER FAST RECOVERY RECTIFIER DIODE

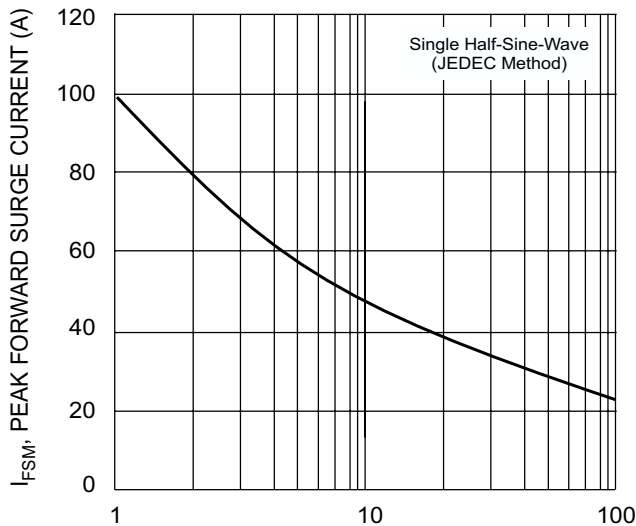
Typical Characteristics



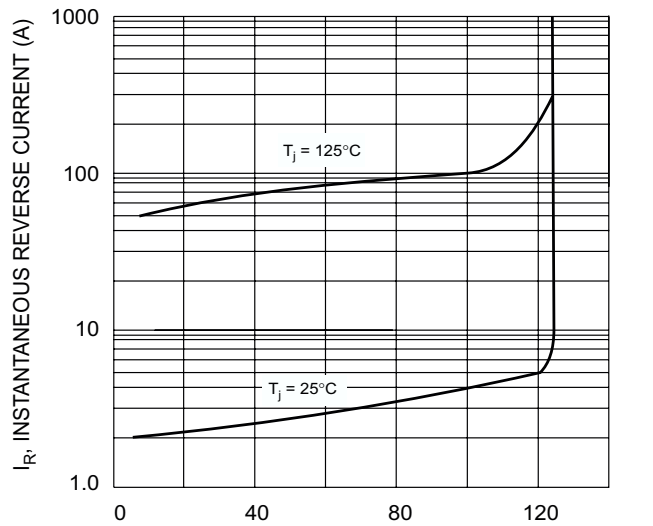
T_T , TERMINAL TEMPERATURE (°C)
Fig. 1 Forward Current Derating Curve



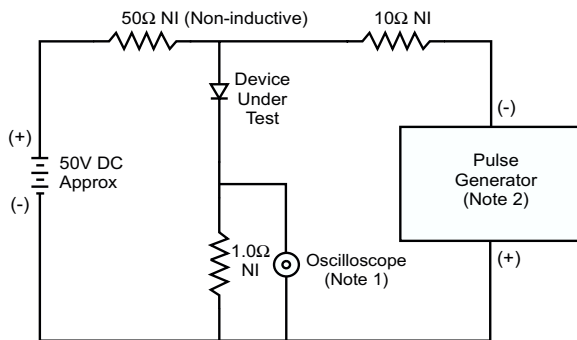
V_F , INSTANTANEOUS FORWARD VOLTAGE (V)
Fig. 2 Typical Forward Characteristics



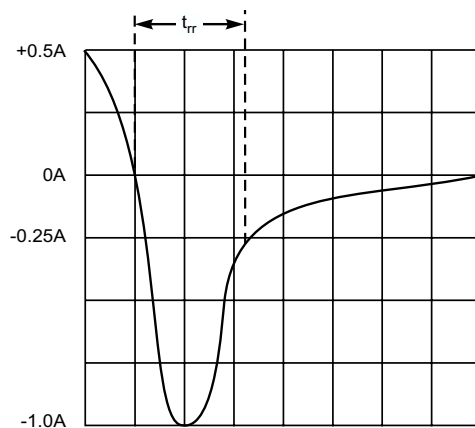
NUMBER OF CYCLES AT 60Hz
Fig. 3 Surge Current Derating Curve



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

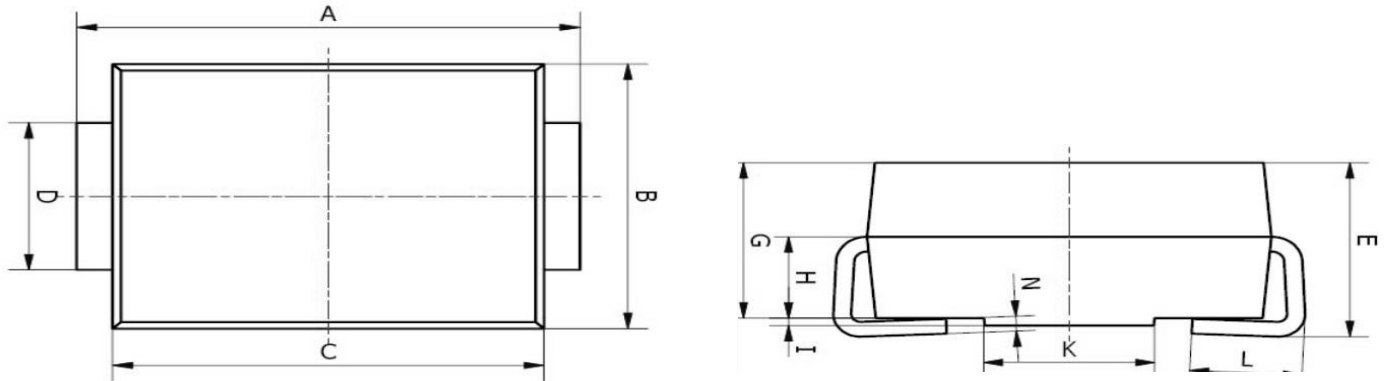


Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
2. Rise Time = 10ns max. Input Impedance = 50Ω.

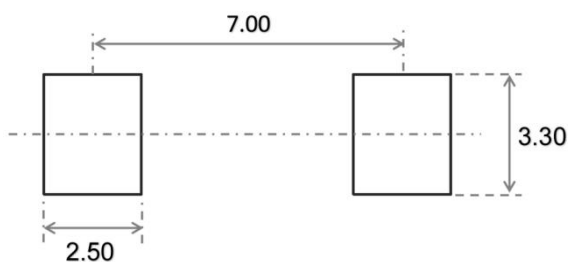


Set time base for 50/100 ns/cm

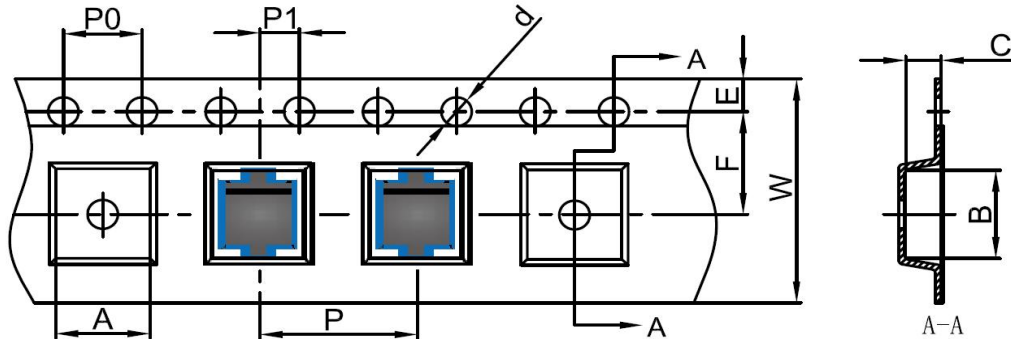
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

SUPER FAST RECOVERY RECTIFIER DIODE
SMC Package Outline Dimensions


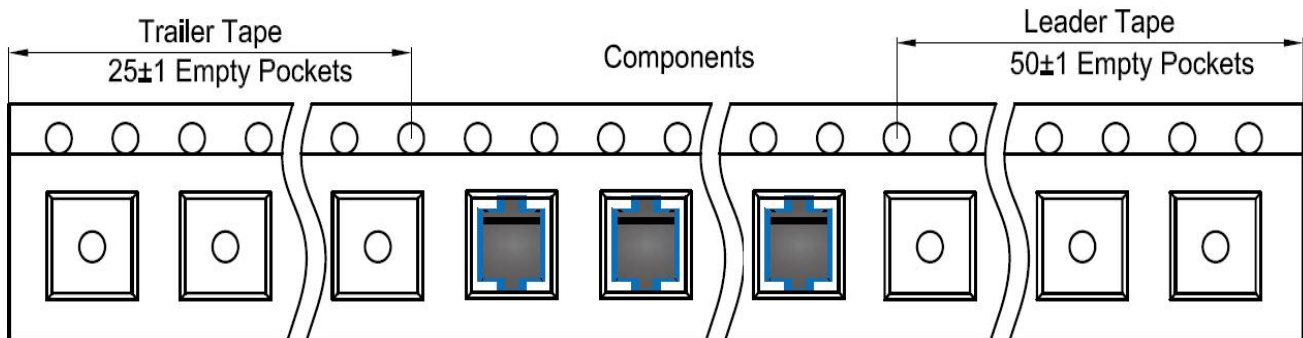
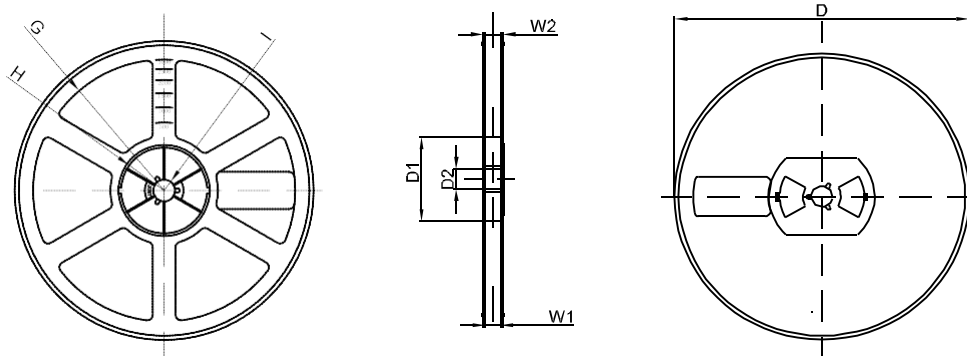
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	7.75	8.13	0.305	0.320
B	5.59	6.22	0.220	0.245
C	6.60	7.11	0.260	0.280
D	2.75	3.25	0.108	0.128
E	2.25	2.82	0.089	0.111
G	2.00	2.62	0.079	0.103
H	1.26	1.56	0.050	0.061
I	0.05	0.15	0.002	0.006
K	4.30	6.00	0.169	0.236
L	1.25	1.75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

SUPER FAST RECOVERY RECTIFIER DIODE
SMC Tape and Reel
SMC Embossed Carrier Tape


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMC	6.3	8.25	2.90	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SMC Tape Leader and Trailer

SMC Reel


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	100	21	R165	R50	R6.50	16.4	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1