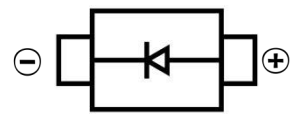


**ULTRA FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

- Glass passivated junction
- Low reverse leakage current
- Low forward voltage drop
- High current capability
- 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:US3M

**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>	1000	V
DC Blocking Reverse Voltage	V <sub>R</sub>	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	700	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>	75	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>			1.7	V	I <sub>F</sub> =3A
Reverse current @T <sub>A</sub> =25°C	I <sub>R</sub>			10	μA	V <sub>R</sub> =1000V
Reverse current @T <sub>A</sub> =125°C	I <sub>R</sub>			500	μA	V <sub>R</sub> =1000V
Diode capacitance	C <sub>D</sub>		30		pF	V <sub>R</sub> =4V, f=1MHz

ULTRA FAST RECOVERY RECTIFIER DIODE

Typical Characteristics

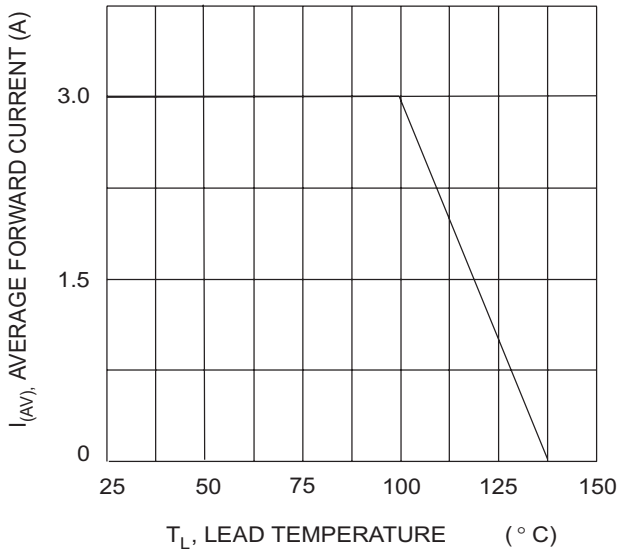


Fig. 1 Forward Current Derating Curve

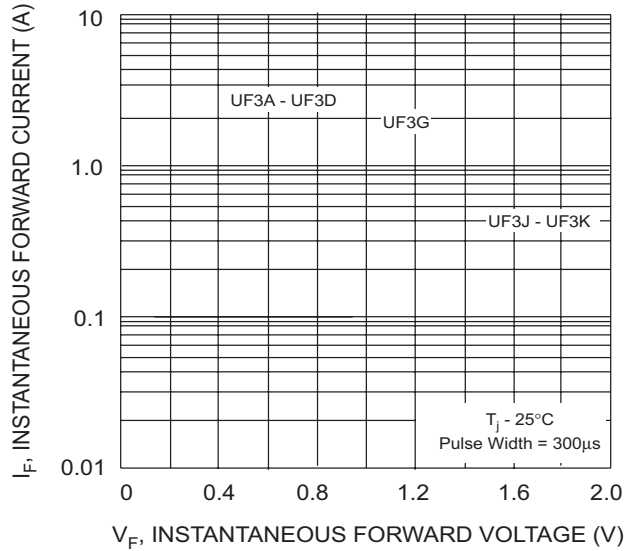


Fig. 2 Typical Forward Characteristics

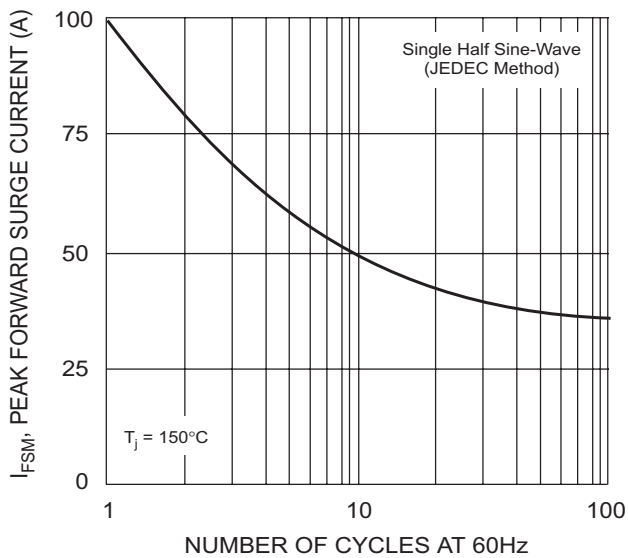


Fig. 3 Forward Surge Current Derating Curve

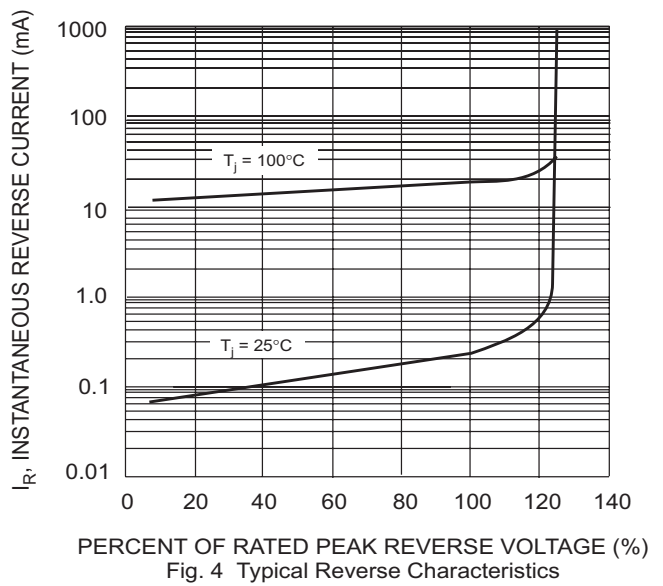
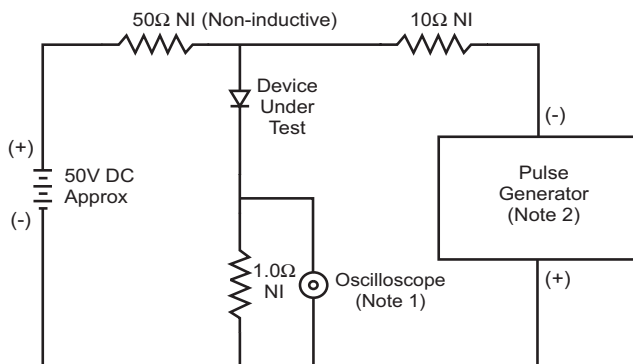


Fig. 4 Typical Reverse Characteristics



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

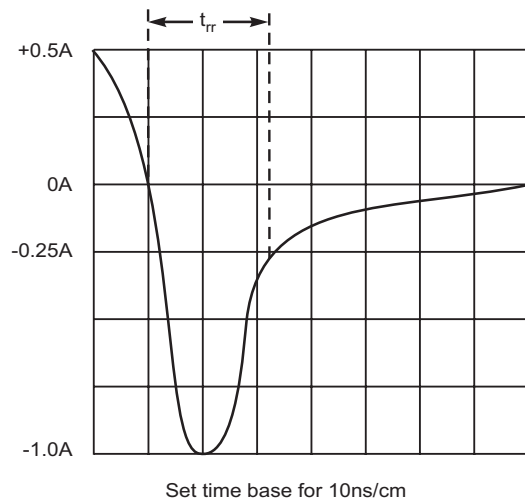
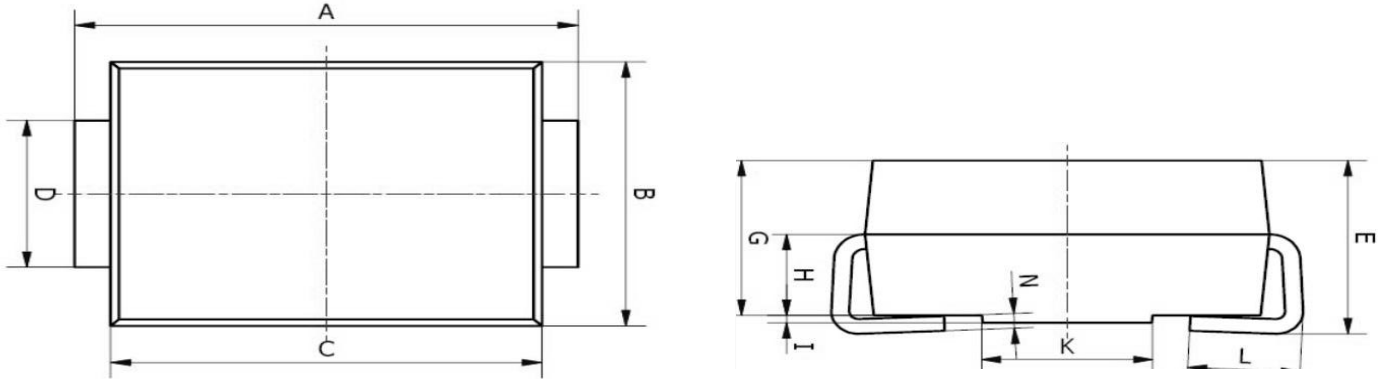
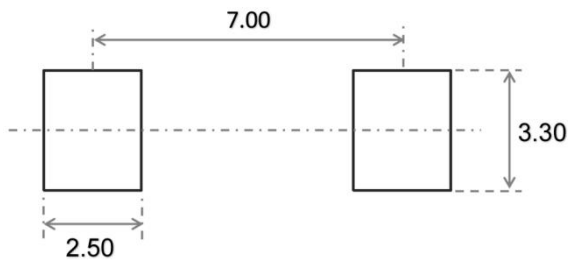


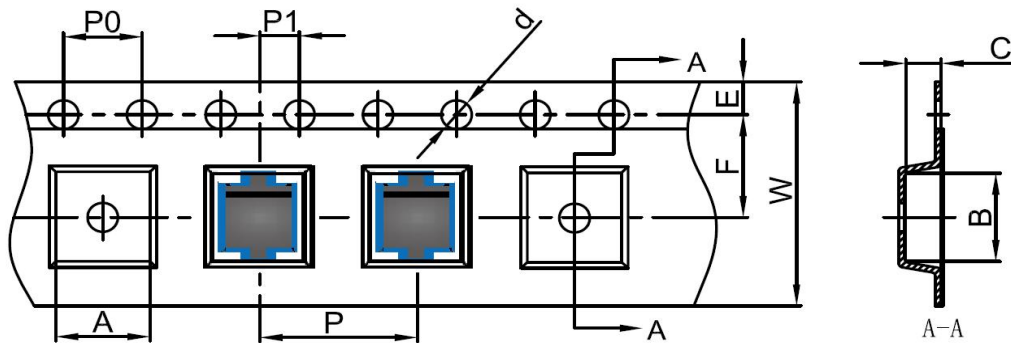
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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


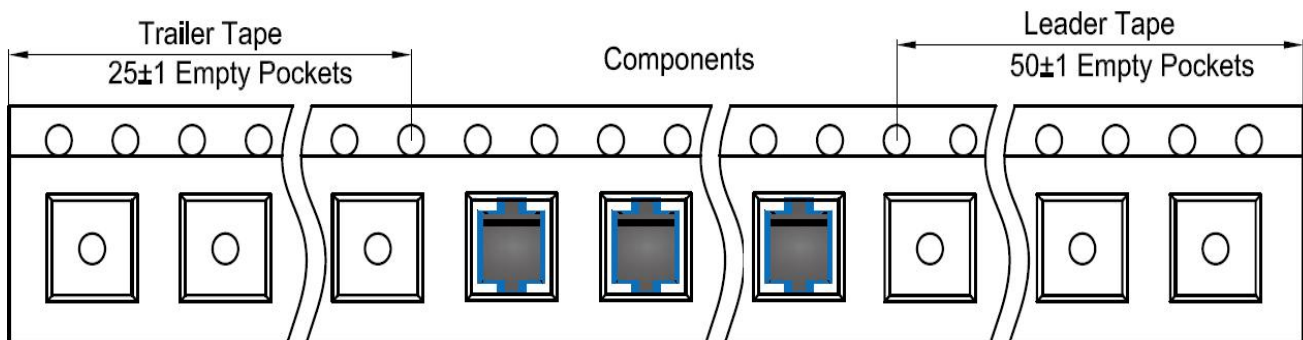
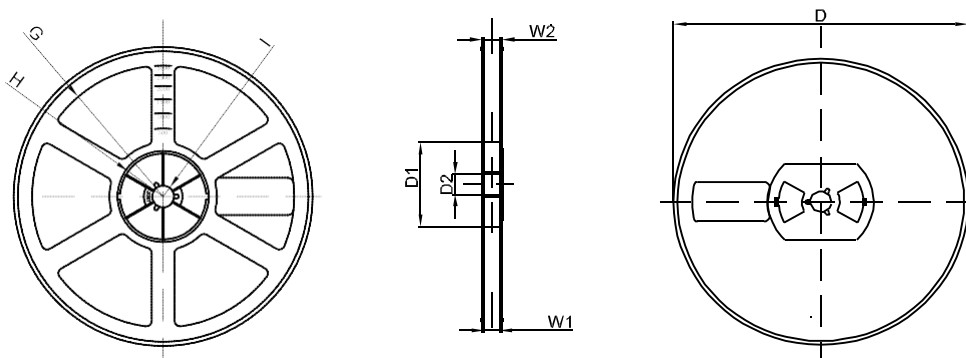
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	7.75	8.13	0.305	0.320
B	5.59	6.22	0.220	0.245
C	6.60	7.11	0.260	0.280
D	2.75	3.25	0.108	0.128
E	2.25	2.82	0.089	0.111
G	2.00	2.62	0.079	0.103
H	1.26	1.56	0.050	0.061
I	0.05	0.15	0.002	0.006
K	4.30	6.00	0.169	0.236
L	1.25	1.75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

**ULTRA 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