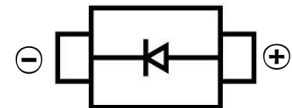


**ULTRA FAST RECOVERY RECTIFIER DIODE**
**FEATURES**

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


**SMB**

**MECHANICAL DATA**

- Case: SMB(DO-214AA)
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.088 grams (approximate)

**MAXIMUM RATINGS AND CHARACTERISTICS( $T_A = 25^{\circ}\text{C}$  unless otherwise noted)**

Parameter	Symbol	Value	Unit
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	1000	V
DC Blocking Reverse Voltage	$V_R$	1000	V
RMS Reverse Voltage	$V_{R(RMS)}$	700	V
Maximum Average Forward Rectified Current	$I_F$	2	A
Non-Repetitive Peak Forward Surge Current @ $t@=8.3\text{ms}$	$I_{FSM}$	50	A
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	40	$^{\circ}\text{C/W}$
Reverse Recovery Time(@ $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{RR}=0.25\text{A}$ )	$t_{rr}$	75	nS
Junction Temperature	$T_J$	-55 ~+150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 ~+150	$^{\circ}\text{C}$

**ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}\text{C}$  unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Conditions
Forward voltage	$V_F$			1.7	V	$I_F=2\text{A}$
Reverse current	$I_R$			5	$\mu\text{A}$	$V_R=1000\text{V}$
Diode capacitance	$C_D$		30		pF	$V_R=4\text{V}$ , $f=1\text{MHz}$

**ULTRA FAST RECOVERY RECTIFIER DIODE**

**Typical Characteristics**

FIG. 1 – FORWARD CURRENT DERATING CURVE

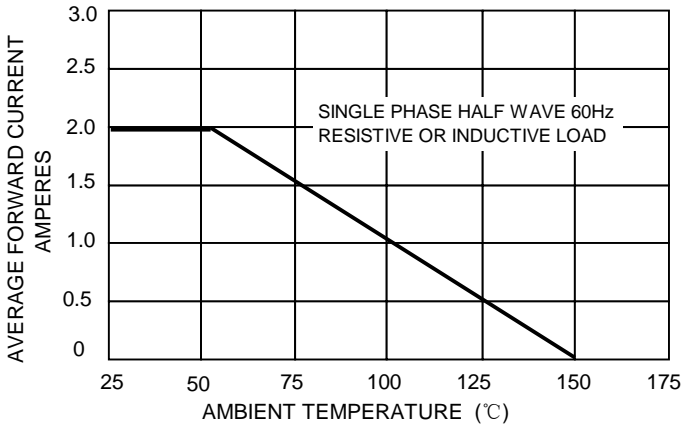


FIG. 2 – MAXIMUM NON-REPETITIVE SURGE CURRENT

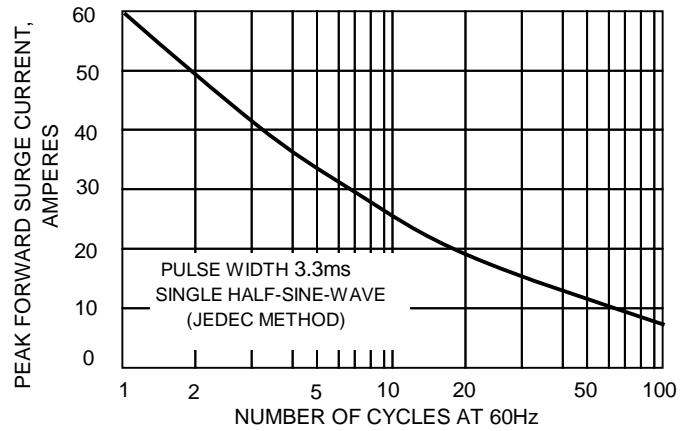


FIG.3 – TYPICAL JUNCTION CAPACITANCE

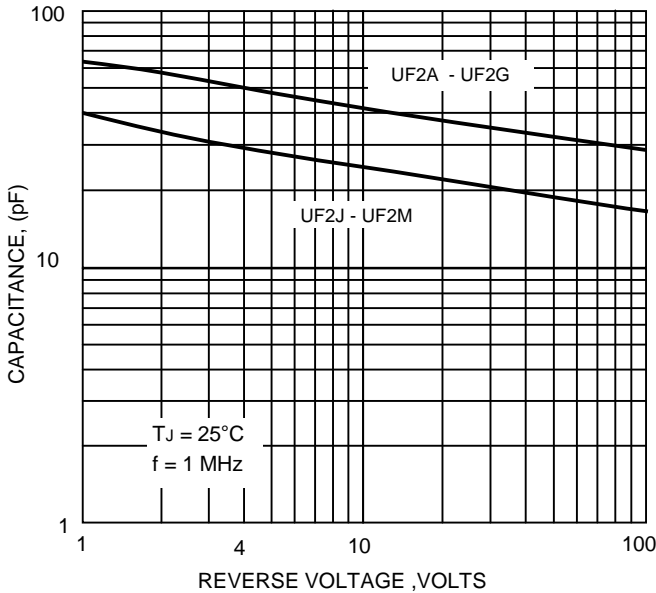
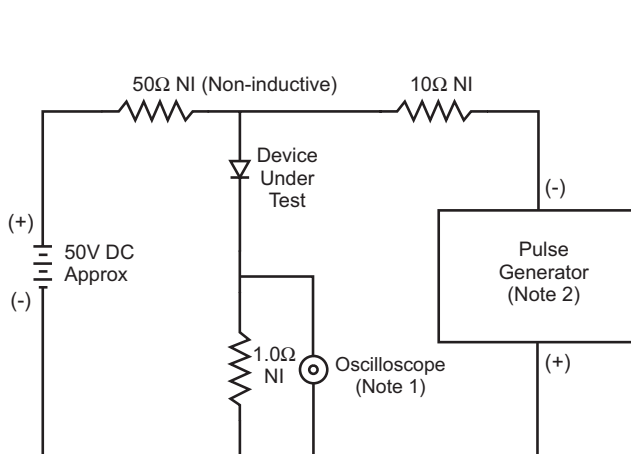
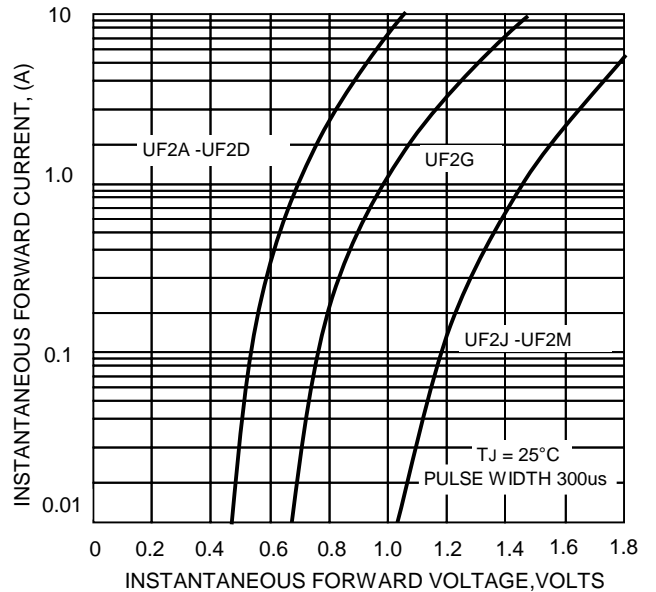
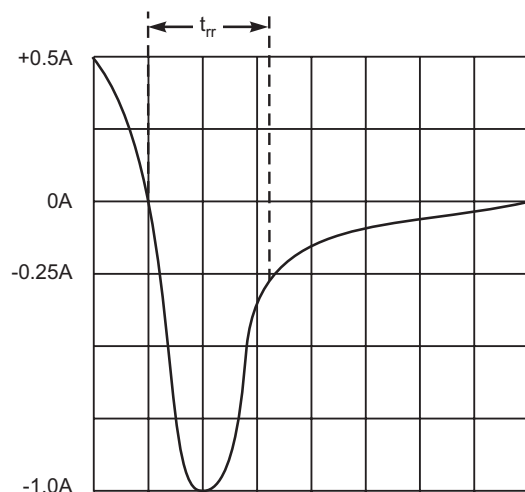


FIG.4-TYPICAL FORWARD CHARACTERISTICS

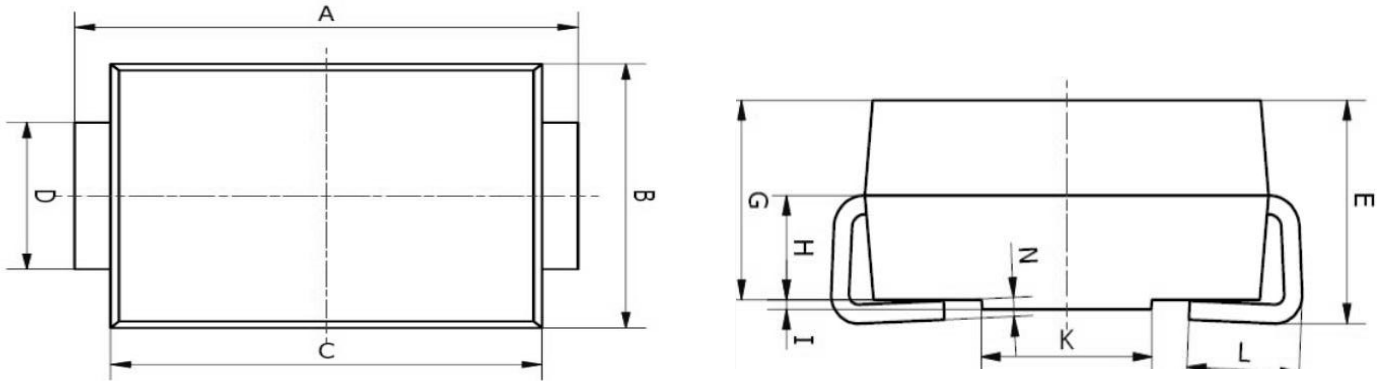


- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0MΩ, 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50Ω.

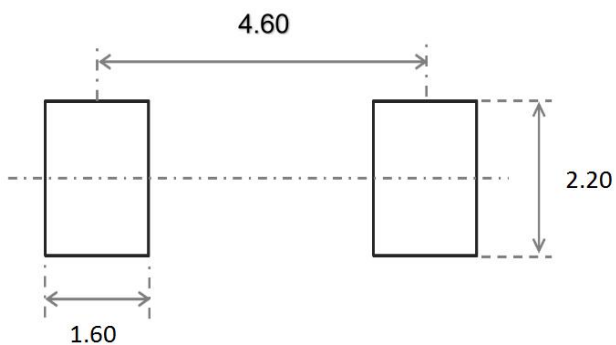


Set time base for 10ns/cm

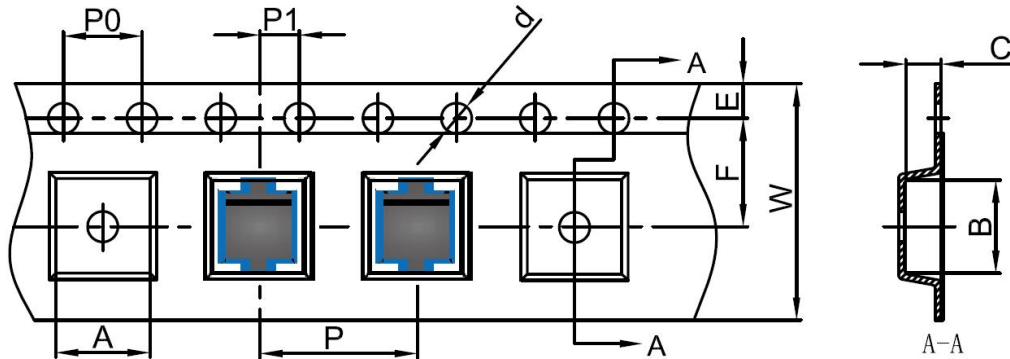
Fig. 5 Reverse Recovery Time Characteristic and Test Circuit

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


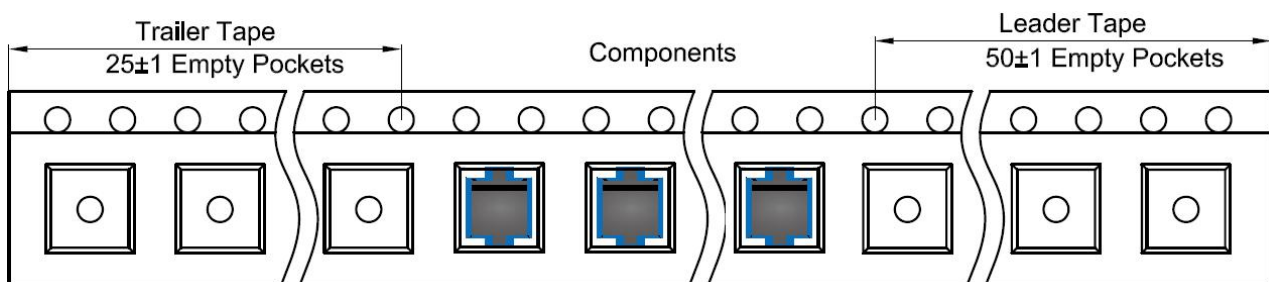
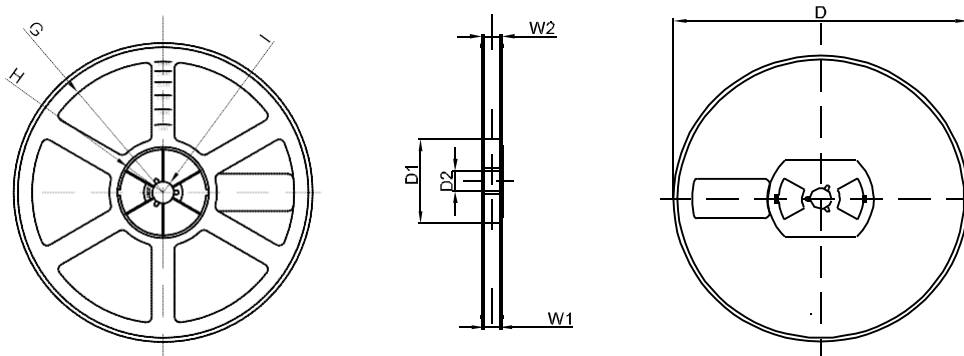
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	5.00	5.45	0.197	0.215
B	3.20	4.00	0.126	0.157
C	4.30	4.70	0.169	0.185
D	1.80	2.20	0.071	0.087
E	2.20	2.50	0.087	0.098
G	1.90	2.30	0.075	0.090
H	0.95	1.25	0.037	0.049
I	0.05	0.15	0.002	0.006
K	1.70	2.10	0.067	0.083
L	0.90	1.60	0.035	0.063
N	0.10	0.30	0.004	0.012

**SMB 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**
**SMB Tape and Reel**
**SMB Embossed Carrier Tape**


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMB	4.10	5.50	2.58	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**SMB Tape Leader and Trailer**

**SMB Reel**


DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	75.0	13.00	R165	R37.50	R6.50	12.40	17.60
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1