

**SURFACE MOUNT GLASS PASSIVATED  
SUPER FAST SILICON RECTIFIER**  
VOLTAGE RANGE 50 to 200 Volts CURRENT 3.0 Ampere

**FEATURES**

- \* Glass passivated device
- \* For surface mounted applications
- \* Ultrafast recovery times dor high efficiency
- \* Low forward voltage, low power loss
- \* Low leakage current

**MECHANICAL DATA**

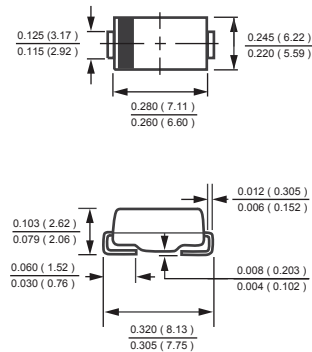
- \* Epoxy: Device has UL flammability classification 94V-0
- \* Metallurgically bonded construction
- \* Mounting position: Any
- \* Weight: 0.24 gram

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25 °C ambient temperature unless otherwise specified.  
Resistive or inductive load.



**DO-214AB**



**MAXIMUM RATINGS** (@ TA=25 °C unless otherwise noted)

RATINGS	SYMBOL	UFM301	UFM302	UFM303	UFM304	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	Volts
Maximum Average Forward Rectified Current at $T_A = 55^\circ\text{C}$	$I_O$	3.0				Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	100				Amps
Typical Current Square Time	$I^2T$	41.4				A <sup>2</sup> S
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	47				°C/W
Typical Thermal Resistance (Note 1)	$R_{\theta JL}$	12				°C/W
Typical Junction Capacitance (Note 2)	$C_J$	45				pF
Operating Temperature Range	$T_J$	150				°C
Storage Temperature Range	$T_{STG}$	-55 to + 150				°C

**ELECTRICAL CHARACTERISTICS**(@TA=25 °C unless otherwise noted)

CHARACTERISTICS	SYMBOL	UFM301	UFM302	UFM303	UFM304	UNITS
Maximum Instantaneous Forward Voltage at 3.0A DC	$V_F$	0.9				Volts
Maximum Average Reverse Current at Rated DC Blocking Voltage	@ $T_A = 25^\circ\text{C}$	5				uA
	@ $T_A = 150^\circ\text{C}$	1				mA
Maximum Reverse Recovery Time (Note 4)	$t_{rr}$	20				nSec

- NOTES :
1. Thermal Resistance :Mounted on PCB.
  2. Measured at 1 MHz and applied reverse voltage of 4.0 volts.
  3. "ROHS compliant"
  4. Test Conditions:  $I_F = 0.5A$ ,  $I_R = -1.0A$ ,  $I_{RR} = -0.25A$ .

## RATING AND CHARACTERISTICS CURVES ( UFM301 THRU UFM304 )

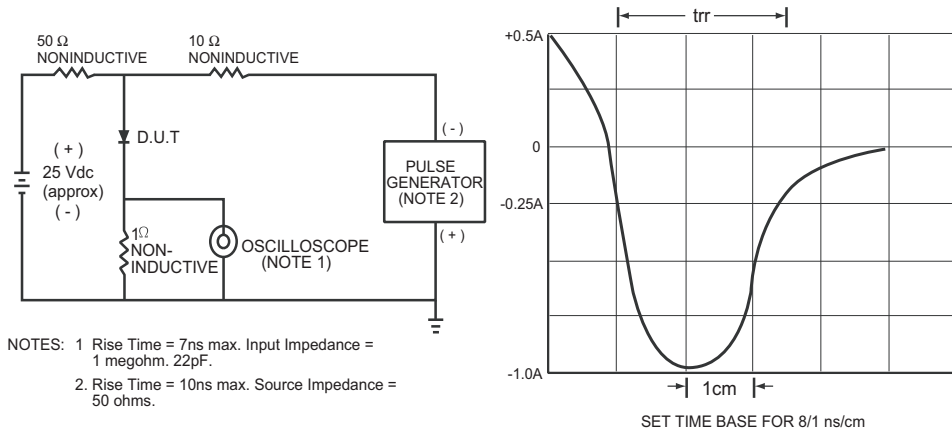


FIG.1 TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC

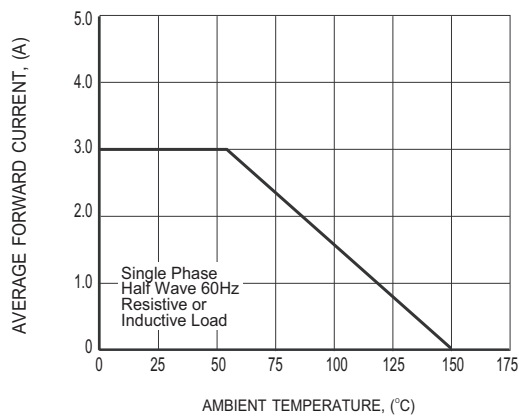


FIG.2 TYPICAL FORWARD CURRENT DERATING CURVE

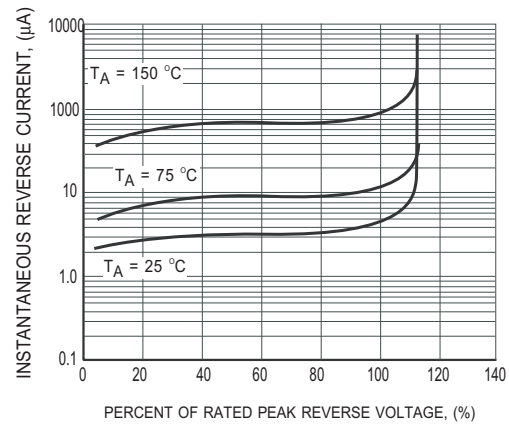
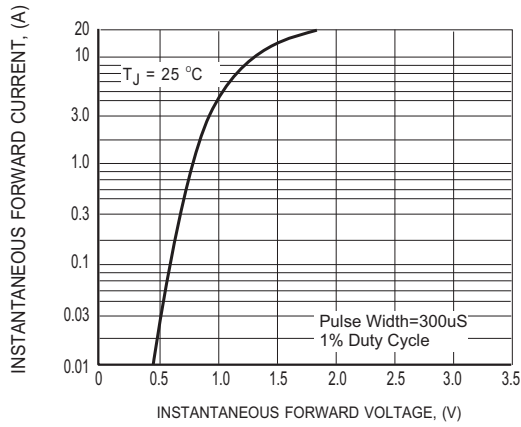
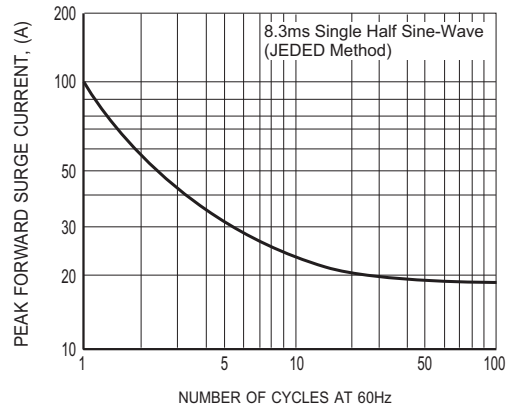


FIG.3 MAXIMUM REVERSE CHARACTERISTICS

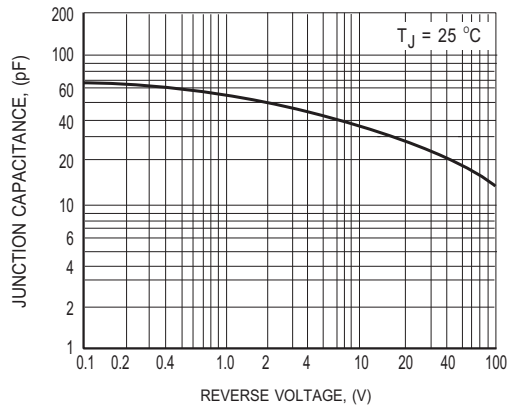
## RATING AND CHARACTERISTICS CURVES ( UFM301 THRU UFM304 )



**FIG.4 MAXIMUM INSTANTANEOUS FORWARD CHARACTERISTICS**

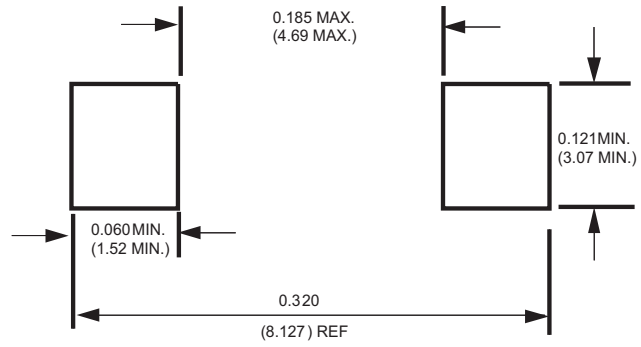


**FIG.5 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT**



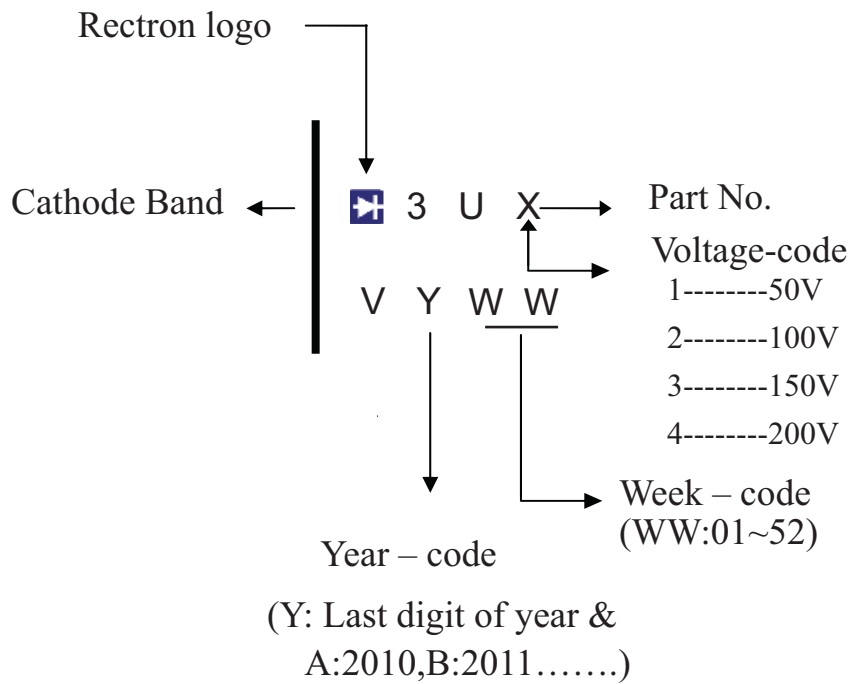
**FIG.6 TYPICAL JUNCTION CAPACITANCE**

## Mounting Pad Layout



Dimensions in inches and (millimeters)

## Marking Description



## PACKAGING OF DIODE AND BRIDGE RECTIFIERS

### REEL PACK

PACKAGE	PACKING CODE	EA PER REEL	EA PER INNER BOX	COMPONENT SPACE (mm)	TAPE SPACE (mm)	REEL DIA (mm)	CARTON SIZE (mm)	EA PER CARTON	GROSS WEIGHT(Kg)
SMC	-W/-T	3,000	3,000	---	---	330	360*355*360	24,000	11.50

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