



Features

- Ideal for surface mount applications
- Easy pick and place
- Built-in strain relief
- Fast switching speed



SMB

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Metallurgically bonded construction
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: 0.093 grams

Package Marking and Ordering Information

Product ID	Pack	Brand	Qty(PCS)
US3A-US3M	SMB	HXY MOSFET	3000

Maximum Ratings And Electrical Characteristics

Rating 25°C ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

Type Number	US3A	US3B	US3D	US3E	US3G	US3J	US3K	US3M	Unit
Maximum Recurrent Peak Reverse Voltage	50	100	200	300	400	600	800	1000	V
Maximum RMS Voltage	35	70	140	210	280	420	560	700	V
Maximum DC Blocking Voltage	50	100	200	300	400	600	800	1000	V
Maximum Average Forward Rectified Current at Ta=55°C	3.0								A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	100								A
Maximum Instantaneous Forward Voltage at 3.0A	1.0			1.3		1.85			V
Maximum DC Reverse Current Ta=25°C	10								μA
at Rated DC Blocking Voltage Ta=100°C	200								μA
Maximum Reverse Recovery Time (Note 1)	50					75			nS
Typical Junction Capacitance (Note 2)	75								pF
Operating and Storage Temperature Range T _J , T _{STG}	-65 — +150								°C

NOTES:

1. Reverse Recovery Time test condition: IF=0.5A, IR=1.0A, IRR=0.25A
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.



Typical Characteristics

FIG.1-TYPICAL FORWARD

CHARACTERISTICS

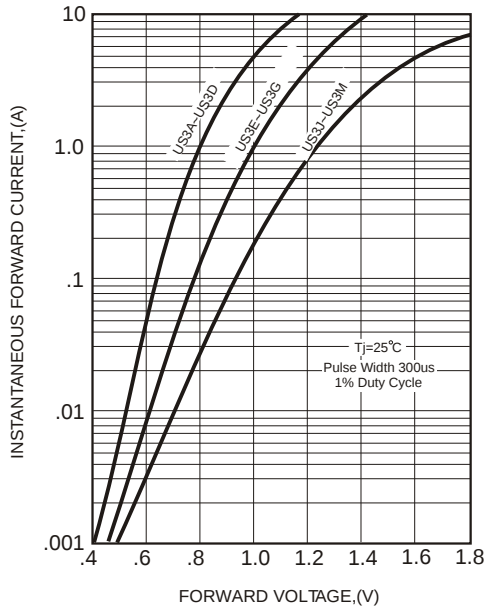


FIG.2-TYPICAL FORWARD CURRENT
DERATING CURVE

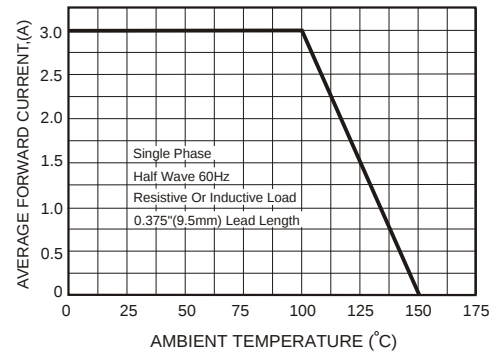
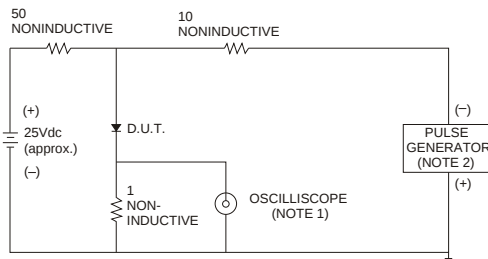


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE
RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm.22pF.
2. Rise Time= 10ns max., Source Impedance= 50 ohms.

FIG.4-MAXIMUM NON-REPETITIVE FORWARD
SURGE CURRENT

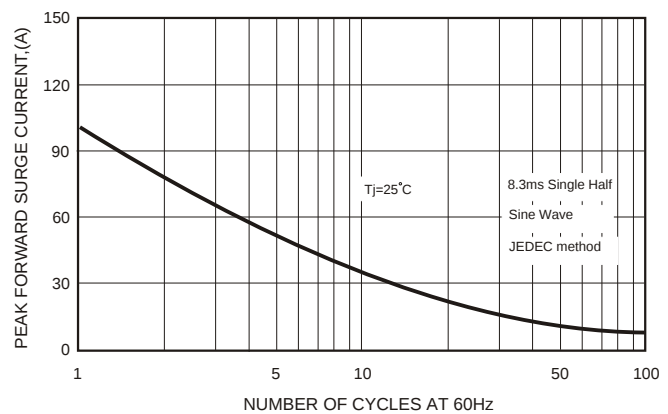
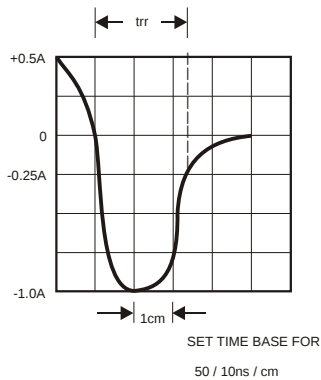
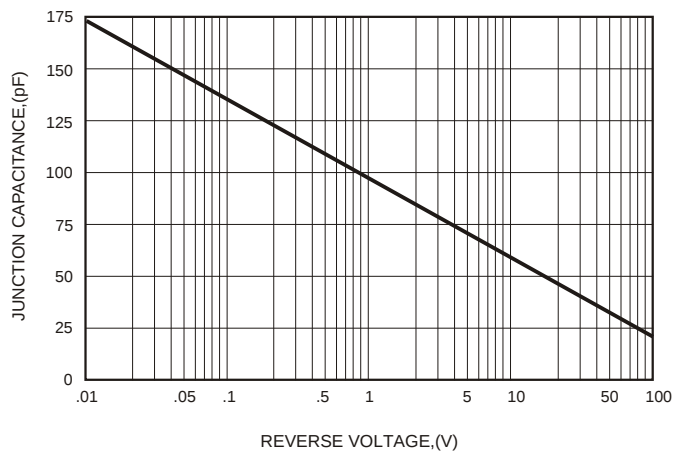
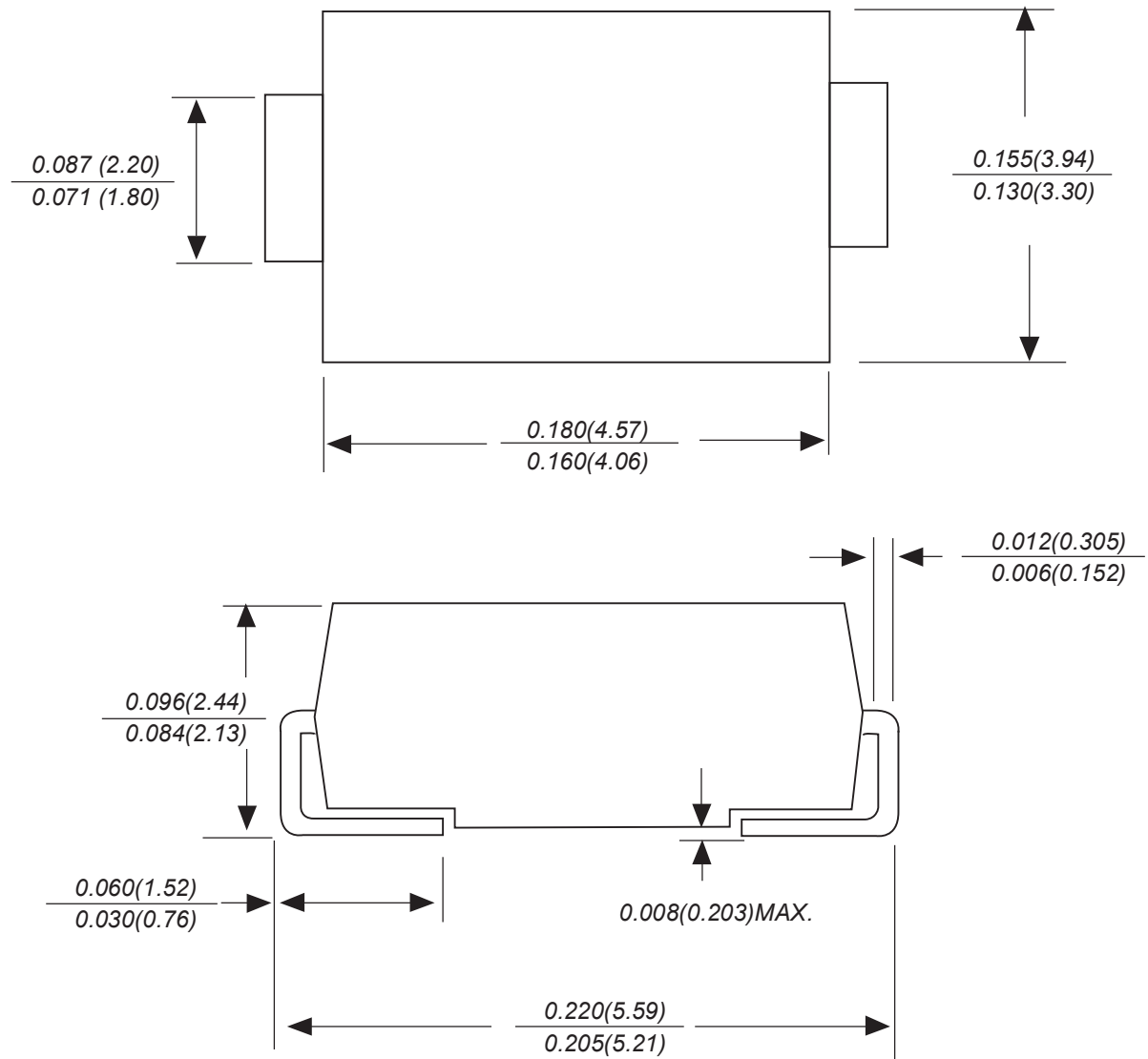


FIG.5-TYPICAL JUNCTION CAPACITANCE





SMB Package Outline Dimensions



Dimensions in inches and (millimeters)



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