

# MURS140

# SURFACE MOUNT ULTRA FAST RECTIFIERS

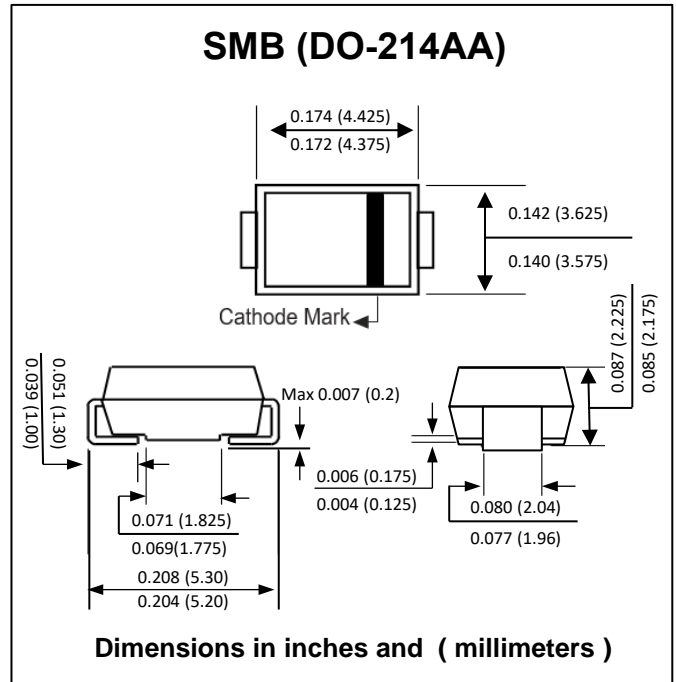
**PRV : 400 Volts**  
**Io : 1.0 Ampere**

**FEATURES :**

- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ultra Fast Recovery Time
- \* Pb / RoHS Free

**MECHANICAL DATA :**

- \* Case : SMB Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.093 gram



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

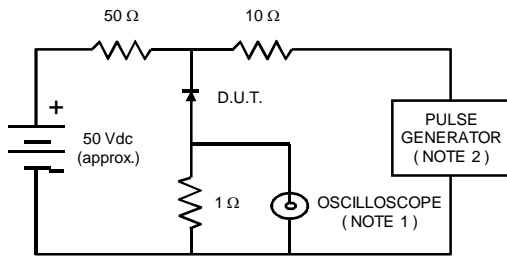
RATING	SYMBOL	VALUE	UNIT	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	400	V	
Maximum Working Peak Reverse Voltage	$V_{RWM}$	400	V	
Maximum DC Blocking Voltage	$V_{DC}$	400	V	
Maximum Average Forward Current $T_L = 150\text{ °C}$ See Fig. 1 $T_L = 125\text{ °C}$	$I_{F(AV)}$	1.0 2.0	A	
Maximum Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	35	A	
Maximum instantaneous Forward Voltage (1)	$V_F$	at $I_F = 1.0A, T_J = 25\text{ °C}$ at $I_F = 1.0A, T_J = 150\text{ °C}$	1.25 1.05	V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage(1)		$I_R$	5	$\mu A$
Maximum Reverse Recovery Time (2)	$T_{rr}$	50	ns	
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	- 65 to + 175	$^{\circ}C$	

**Notes :**

- (1) Pulse Test : Pulse Width = 300  $\mu s$ , Duty Cycle  $\leq 2.0\%$
- (2) Reverse Recovery Test Conditions :  $I_F = 0.5A, I_R = 1A ; I_{rr} = 0.25 A$

## RATING AND CHARACTERISTIC CURVES ( MURS140 )

FIG.1 - REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



- NOTES : 1. Rise Time = 7 ns max., Input Impedance = 1 megaohm, 22 pF.  
 2. Rise Time = 10 ns max., Source Impedance = 50 ohms.  
 3. All Resistors = Non-inductive Types.

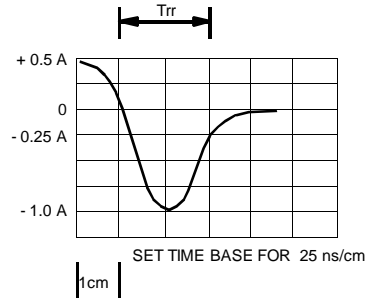


FIG.2 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

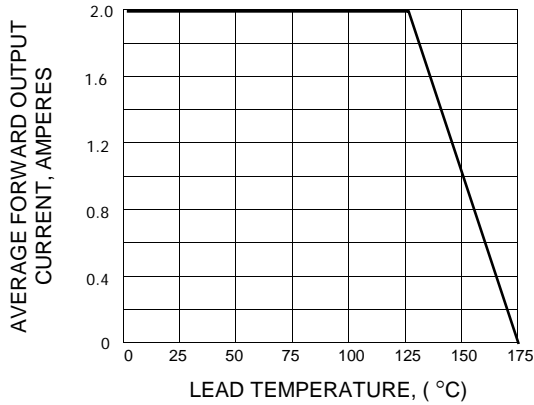


FIG.3 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

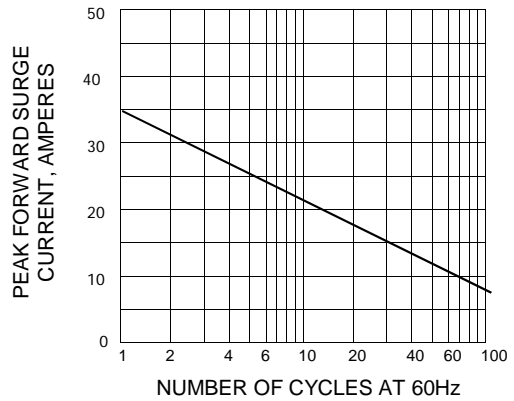


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

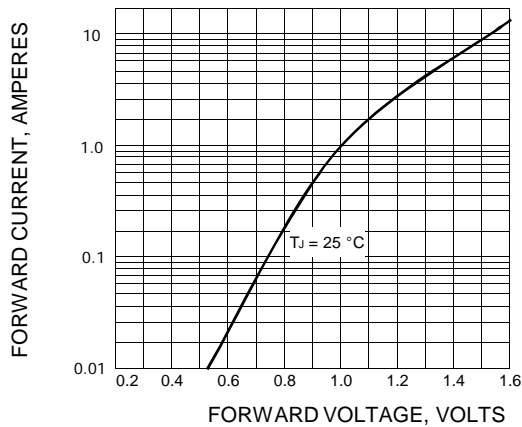


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

