

# MRA4003 - MRA400

# SURFACE MOUNT RECTIFIERS

**PRV : 300 - 1000 Volts**

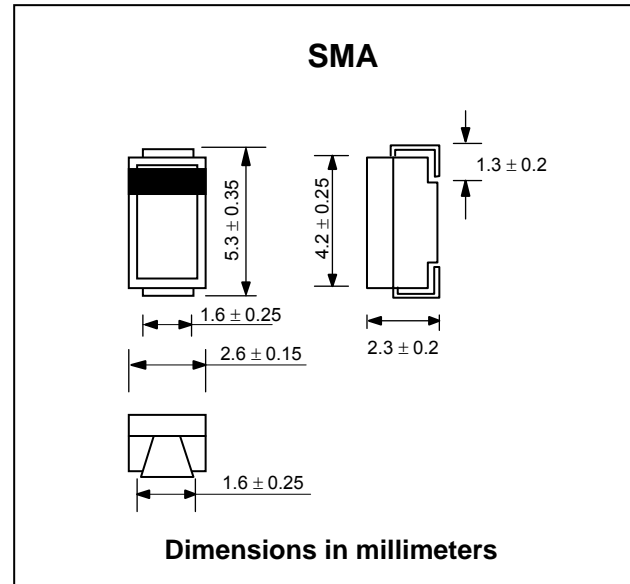
**Io : 1.0 Ampere**

### FEATURES :

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

### MECHANICAL DATA :

- \* Case : SMA Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.060 gram (Approximately)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

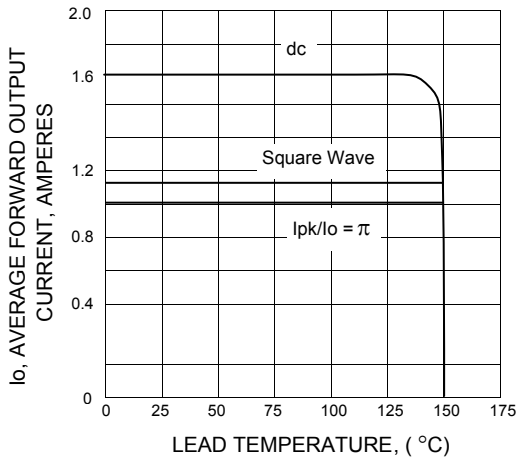
Rating at 25 °C ambient temperature unless otherwise specific. Single phase, half wave, 60 Hz, resistive or inductive load  
For capacitive load, derate current by 20%.

RATING	SYMBOL	MAR4003	MAR4004	MAR4005	MAR4006	MAR4007	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	300	400	600	800	1000	V
Maximum Working Peak Reverse Voltage	$V_{RWM}$	300	400	600	800	1000	V
Maximum DC Blocking Voltage	$V_{DC}$	300	400	600	800	1000	V
Maximum Average Forward Current (at Rated $V_R$ , $T_L = 150\text{ }^\circ\text{C}$ )	$I_{F(AV)}$	1.0					A
Maximum Non-Repetitive Peak Surge Current ( Surge applied at rated load condition, Halfwave , single phase, 60Hz)	$I_{FSM}$	30					A
Maximum Instantaneous Forward Voltage at $I_F = 1.0\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$ at $I_F = 2.0\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$	$V_F$	1.10 1.18					V
Maximum Instantaneous Reverse Current ( at rated DC Voltage) $T_J = 25\text{ }^\circ\text{C}$	$I_{RM}$	10					$\mu\text{A}$
Junction Temperature Range	$T_J$	- 55 to + 175					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 55 to + 150					$^\circ\text{C}$

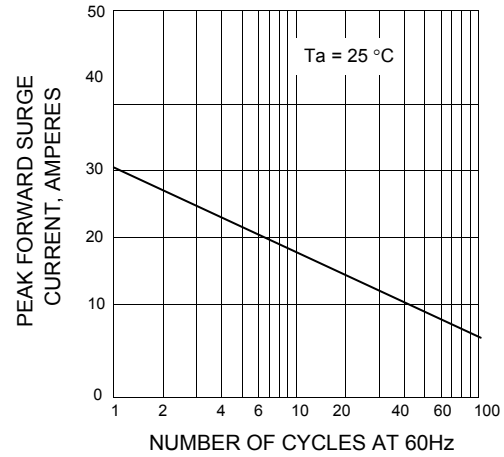
Note : (1) Pulse Test: Pulse Width  $\leq 250\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$ .

## RATING AND CHARACTERISTIC CURVES ( MRA4003 - MRA4007 )

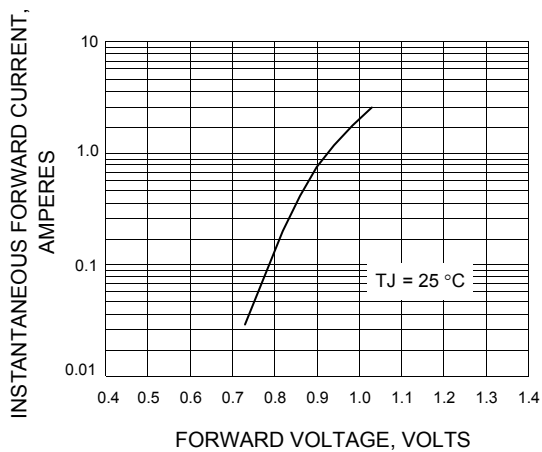
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**

