

P6SMA480A ~ P6SMA600A

SURFACE MOUNT UNI-DIRECTIONAL TRANSIENT VOLTAGE SUPPRESSOR

V_{BR} : 480 ~ 600 Volts

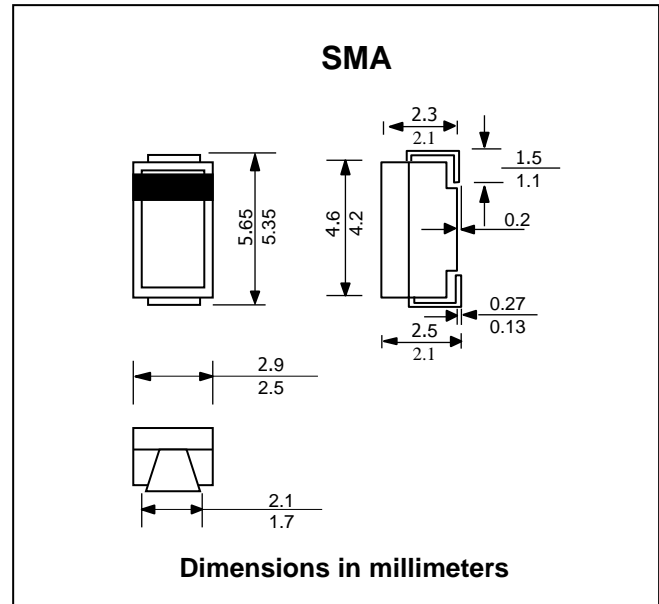
P_{PK} : 600 Watts

FEATURES :

- * Unidirectional transient voltage suppressor
- * 600W surge capability at 1ms
- * Excellent clamping capability
- * Low zener impedance
- * Fast response time : typically less than 1.0 ps from 0 volt to V_{BR(min.)}
- * Pb / RoHS Free

MECHANICAL DATA :

- * Case : SMA Molded plastic
- * Epoxy : UL94V-O rate flame retardant
- * Lead : Lead Formed for Surface Mount
- * Polarity : Color band denotes cathode end except Bipolar.
- * Mounting position : Any
- * Weight : 0.060 gram (Approximately)



DEVICES FOR BIPOLAR APPLICATIONS

For Bi-directional use "CA" Suffix
Electrical characteristics apply in both directions

MAXIMUM RATINGS

Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Power Dissipation at Ta = 25 °C, Tp=1ms (Note1)	P _{PK}	Minimum 600	Watts
Steady State Power Dissipation at T _L = 75 °C	P _D	5.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 3)	I _{FSM}	50	Amps.
Operating and Storage Temperature Range	T _J , T _{STG}	- 55 to + 150	°C

Notes:

- (1) Non-repetitive Current pulse, per Fig. 5 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on copper Lead area at 5.0 mm² (0.013 mm thick).
- (3) 8.3 ms single half sine-wave, duty cycle = 4 pulses per minutes maximum.

ELECTRICAL CHARACTERISTICS (Rating at 25 °C ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ I_t (Note 1)		Working Peak Reverse Voltage	Maximum Reverse Leakage @ V_{RWM}	Maximum Reverse Current	Maximum Clamping Voltage @ I_{RSM}	Maximum Temperature Co-efficient of V_{BR}	
	V_{BR} (V)		I_t	V_{RWM}	I_R	I_{RSM}	V_{RSM}	
	Min.	Max.	(mA)	(V)	(μA)	(A)	(V)	
P6SMA480A	456	504	1.0	408	5.0	0.91	658	0.110
P6SMA510A	485	535	1.0	434	5.0	0.86	698	0.110
P6SMA540A	513	567	1.0	459	5.0	0.81	740	0.110
P6SMA600A	570	630	1.0	510	5.0	0.76	789	0.110

Notes:

- (1) V_{BR} measured after I_t applied for 300 $\mu s.$, I_t = square wave pulse or equivalent.
- (2) $V_F = 8 V_{max.}$, $I_F = 50$ Amps. (480 Volts thru 600 Volts) per 1/2 square or equivalent sine wave.
PW = 8.3 ms, duty cycle = 4 pulses per minute maximum.
- (3) "P6SMA" will be omitted in marking on the diode.

RATING AND CHARACTERISTIC CURVES (P6SMA480A ~ P6SMA600A)

FIG.1 - PULSE DERATING CURVE

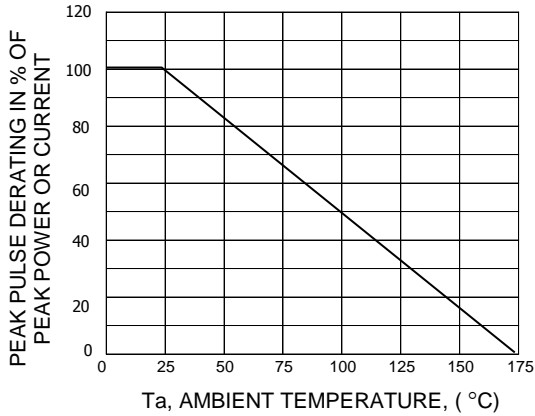


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

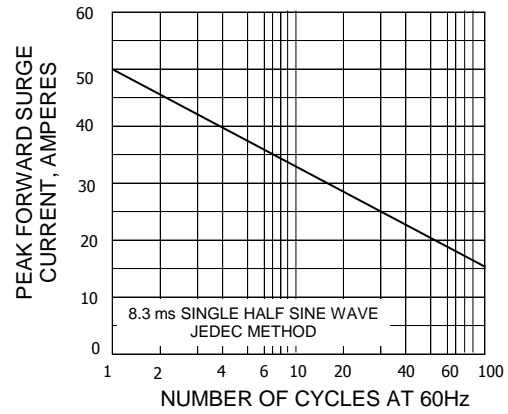


FIG.3 - STEADY STATE POWER DERATING

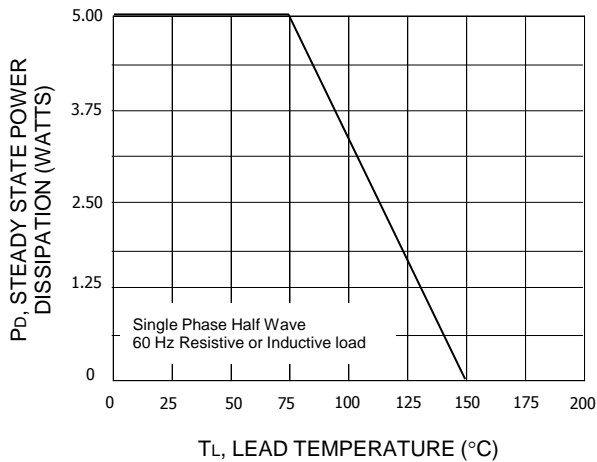


FIG.4 - PULSE RATING CURVE

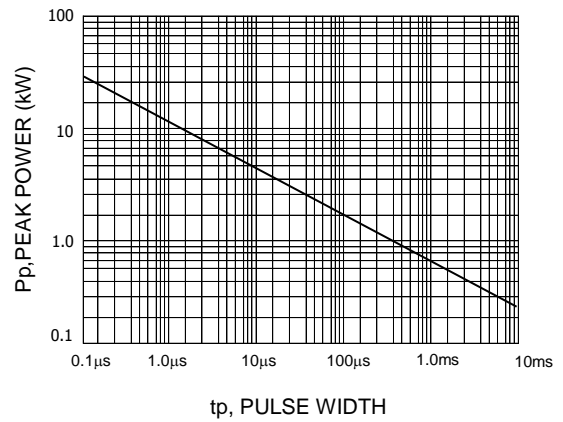


FIG.5 - PULSE WAVEFORM

