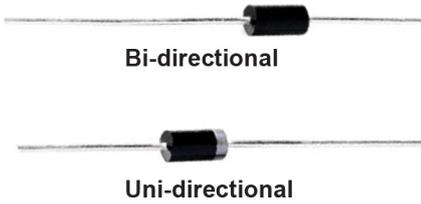


Transient Voltage Suppression Diodes P6KE Series, 600W

multicomp PRO

**RoHS
Compliant**

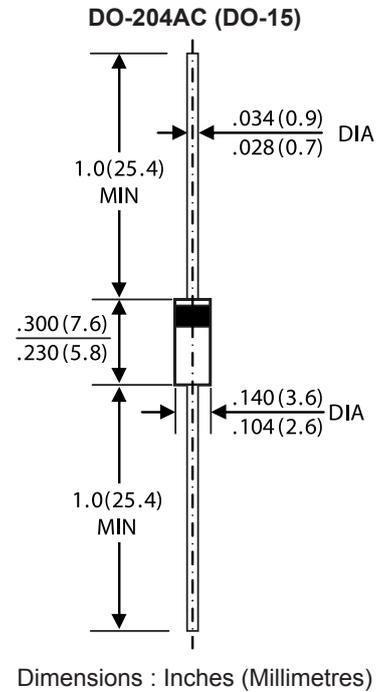


Features

- Exceeds environmental standards of MIL-STD-19500
- 600W surge capability at $10 \times 1,000\mu\text{s}$ waveform, duty cycle: 0.01%
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1ps from 0V to VBR for unidirectional and 5ns for bidirectional
- Typical IR less than $1\mu\text{A}$ above 10 V
- High temperature soldering guaranteed: 260°C / 10 seconds / 0.375 Inched (9.5mm) lead length/5lbs. (2.3kg) tension
- Case style: DO-204AC (DO-15) molded plastic

Mechanical Data

Case : Molded plastic
 Lead : Pure tin plated lead free, solderable per MIL-STD-202, Method 208
 Polarity : Colour band denotes cathode except bipolar
 Weight : 0.42g



Maximum Ratings and Electrical Characteristics

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

Characteristics	Symbol	Values	Unit
Peak Power Dissipation at $T_A = 25^\circ\text{C}$, $T_P = 1\text{ms}$ (Note 1)	P_{PK}	Min. 600	Watts
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$ Lead Lengths 0.375 Inch 9.5 mm (Note 2)	P_D	5	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Only (Note 4)	V_F	3.5 / 5	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175	$^\circ\text{C}$

Notes : 1. Non-repetitive current pulse ,per Fig. 5 and derated above $T_A = 25^\circ\text{C}$ per Fig. 1 .
 2. 8.3ms single half-wave duty cycle = 4 pulses per minutes maximum (uni-directional units only).
 3. $V_F = 3.5\text{V}$ on P6KE6.8 thru P6KE130 devices and $V_F = 5\text{V}$ on P6KE220A thru P6KE400A devices.

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Ratings and Characteristic Curves

FIG.1-PULSE DERATING CURVE

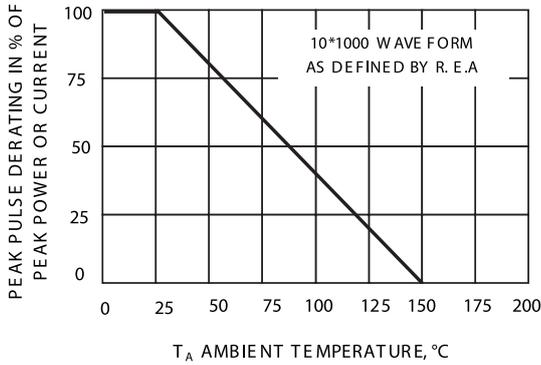


FIG.2-TYPICAL JUNCTION CAPACITANCE

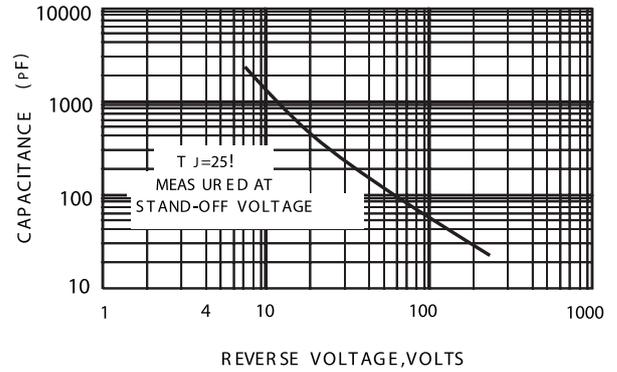


FIG.3-PULSE RATING CURVE

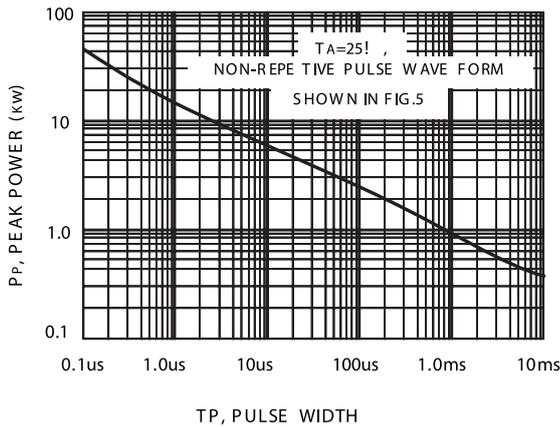


FIG.4-STEADY STATE POWER DERATING CURVE

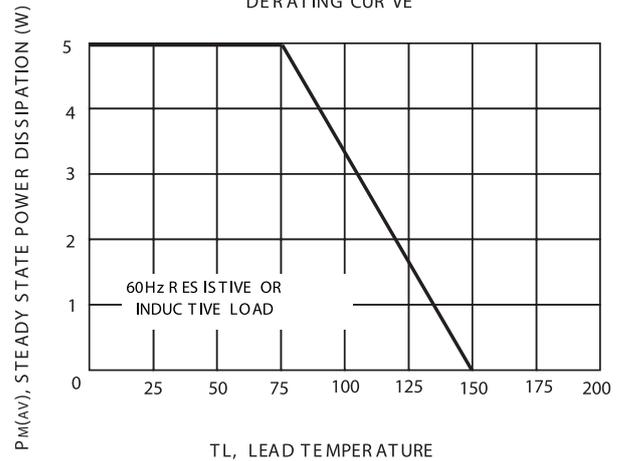
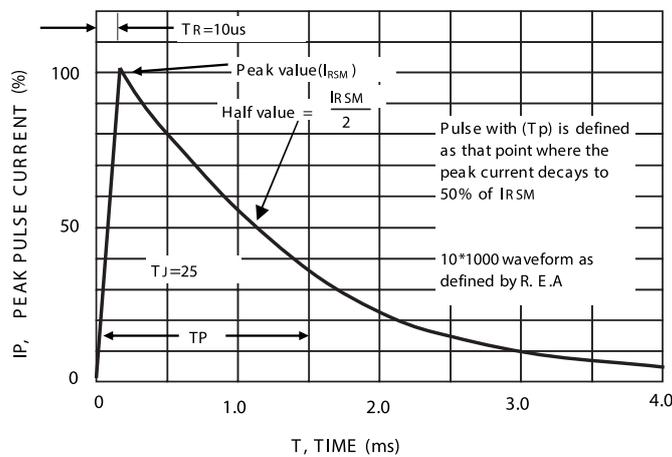


FIG.5 -PULSE WAVE FORM



Transient Voltage Suppression Diodes

P6KE Series, 600W



Electrical Characteristics (T_A = 25°C unless otherwise noted)

Part Number		Reverse Standoff Voltage	Breakdown Voltage BV Volts @ It			Max. Reverse Leakage @	Max. Clamping Voltage @IP	Max. Peak Pulse Current	Max. Voltage Temp. Variation of BV
Unidirectional	Bidirectional	VR(V)	Min. (V)	Max. (V)	It (mA)	IR(μA)	Vc(V)	Ipp(A)	% / °C
P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	1000	10.5	57	0.057
P6KE43A	P6KE43CA	36.8	40.9	45.2	1	5	59.3	10.1	0.101
-	P6KE56CA	47.8	53.2	58.8	1	5	77	7.8	0.103
P6KE130A	P6KE130CA	111	124	137	1	5	179	3.3	0.107

Notes:

Suffix 'C' denotes bidirectional device . Suffix 'A' denotes 5% tolerance device. No suffix denotes 10% tolerance device.

1. For bidirectional devices having VR of 10volts and under ,the IR limit is doubled .

Part Number Table

Description	Part Number
TVS Diode, 600W, 6.8V _{BR} Nom, Unidirectional, DO-204AC (DO-15)	P6KE6.8A
TVS Diode, 600W, 6.8V _{BR} Nom, Bidirectional, DO-204AC (DO-15)	P6KE6.8CA
TVS Diode, 600W, 43V _{BR} Nom, Unidirectional, DO-204AC (DO-15)	P6KE43A
TVS Diode, 600W, 43V _{BR} Nom, Bidirectional, DO-204AC (DO-15)	P6KE43CA
TVS Diode, 600W, 56V _{BR} Nom, Bidirectional, DO-204AC (DO-15)	P6KE56CA
TVS Diode, 600W, 130V _{BR} Nom, Unidirectional, DO-204AC (DO-15)	P6KE130A
TVS Diode, 600W, 130V _{BR} Nom, Bidirectional, DO-204AC (DO-15)	P6KE130CA

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