

FEATURES

- Glass passivated chip junction
- Available in uni-directional and bi-directional
- 600 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle): 0.01 %
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance
- Solder dip 260 °C, 40 s
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

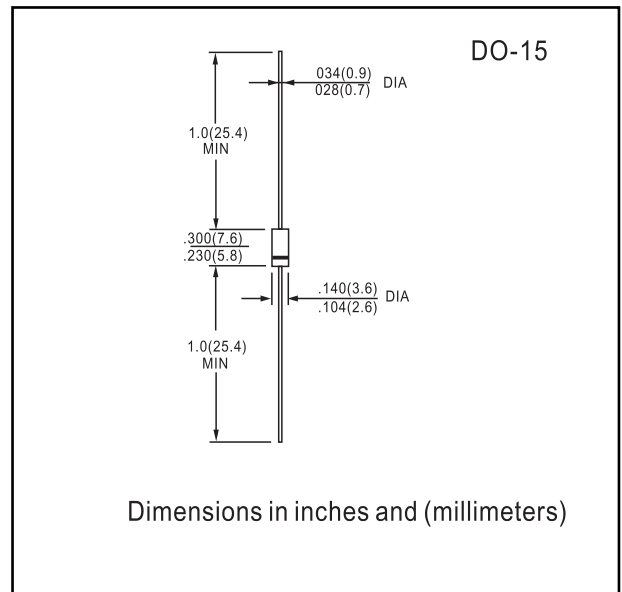
MECHANICAL DATA

Case: DO-204AC, molded epoxy over passivated chip
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS compliant, commercial grade
Base P/NHE3 - RoHS compliant, high reliability/automotive grade (AEC Q101 qualified)

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: For uni-directional types the color band denotes cathode end, no marking on bi-directional types



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

PRIMARY CHARACTERISTICS	
V_{BR} uni-directional	6.8 V to 400 V
V_{BR} bi-directional	6.8 V to 400 V
P_{PPM}	600 W
P_D	5.0 W
I_{FSM} (uni-directional only)	100 A
T_J max.	175 °C

MAXIMUM RATINGS ($T_A = 25\text{ °C}$ unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾ (Fig. 1)	P_{PPM}	600	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PPM}	See next table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ °C}$ (Fig. 5)	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sine-wave ⁽²⁾	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for uni-directional only ⁽³⁾	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 175	°C

Notes:

(1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25\text{ °C}$ per Fig. 2

(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 per minute maximum

(3) $V_F = 3.5\text{ V}$ for P6KE220(A) and below; $V_F = 5.0\text{ V}$ for P6KE250(A) and above

P6KE6.8A THRU P6KE440A

6.8-440V 5W

TRANSZORB® Transient Voltage Suppressors

Type Number (Note 1)	Type Number (Note 1)	Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max Reverse Leakage (Note 2) @ V_R	Max Clamping Voltage @ I_{PP}	Max Peak Pulse Current
			V_{RWM} (V)	Min (V)				
P6KE6V8A	P6KE6V8CA	5.80	6.45	7.14	10	1000	10.5	57.0
P6KE7V5A	P6KE7V5CA	6.40	7.13	7.88	10	500	11.3	53.0
P6KE8V2A	P6KE8V2CA	7.02	7.79	8.61	10	200	12.1	50.0
P6KE9V1A	P6KE9V1CA	7.78	8.65	9.55	1.0	50	13.4	45.0
P6KE10A	P6KE10CA	8.55	9.50	10.50	1.0	10	14.5	41.0
P6KE11A	P6KE11CA	9.40	10.50	11.60	1.0	5.0	15.6	38.0
P6KE12A	P6KE12CA	10.20	11.40	12.60	1.0	5.0	16.7	36.0
P6KE13A	P6KE13CA	11.10	12.40	13.70	1.0	5.0	18.2	33.0
P6KE15A	P6KE15CA	12.80	14.30	15.80	1.0	5.0	21.2	28.0
P6KE16A	P6KE16CA	13.60	15.20	16.80	1.0	5.0	22.5	27.0
P6KE18A	P6KE18CA	15.30	17.10	18.90	1.0	5.0	25.2	24.0
P6KE20A	P6KE20CA	17.10	19.00	21.00	1.0	5.0	27.7	22.0
P6KE22A	P6KE22CA	18.80	20.90	23.10	1.0	5.0	30.6	20.0
P6KE24A	P6KE24CA	20.50	22.80	25.20	1.0	5.0	33.2	18.0
P6KE27A	P6KE27CA	23.10	25.70	28.40	1.0	5.0	37.5	16.0
P6KE30A	P6KE30CA	25.60	28.50	31.50	1.0	5.0	41.4	14.40
P6KE33A	P6KE33CA	28.20	31.40	34.70	1.0	5.0	45.7	13.20
P6KE36A	P6KE36CA	30.80	34.20	37.80	1.0	5.0	49.9	12.00
P6KE39A	P6KE39CA	33.30	37.10	41.00	1.0	5.0	53.9	11.20
P6KE43A	P6KE43CA	36.80	40.90	45.20	1.0	5.0	59.3	10.10
P6KE47A	P6KE47CA	40.20	44.70	49.40	1.0	5.0	64.8	9.30
P6KE51A	P6KE51CA	43.60	48.50	53.60	1.0	5.0	70.1	8.60
P6KE56A	P6KE56CA	47.80	53.20	58.80	1.0	5.0	77.0	7.80
P6KE62A	P6KE62CA	53.00	58.90	65.10	1.0	5.0	85.0	7.10
P6KE68A	P6KE68CA	58.10	64.60	71.40	1.0	5.0	92.0	6.50
P6KE75A	P6KE75CA	64.10	71.30	78.80	1.0	5.0	103.0	5.80
P6KE82A	P6KE82CA	70.10	77.90	86.10	1.0	5.0	113.0	5.30
P6KE91A	P6KE91CA	77.80	86.50	95.50	1.0	5.0	125.0	4.80
P6KE100A	P6KE100CA	85.50	95.00	105.00	1.0	5.0	137.0	4.40
P6KE110A	P6KE110CA	94.00	105.00	116.00	1.0	5.0	152.0	4.00
P6KE120A	P6KE120CA	102.00	114.00	126.00	1.0	5.0	165.0	3.60
P6KE130A	P6KE130CA	111.00	124.00	137.00	1.0	5.0	179.0	3.30
P6KE150A	P6KE150CA	128.00	143.00	158.00	1.0	5.0	207.0	2.90
P6KE160A	P6KE160CA	136.00	152.00	168.00	1.0	5.0	219.0	2.70
P6KE170A	P6KE170CA	145.00	162.00	179.00	1.0	5.0	234.0	2.60
P6KE180A	P6KE180CA	154.00	171.00	189.00	1.0	5.0	246.0	2.40
P6KE200A	P6KE200CA	171.00	190.00	210.00	1.0	5.0	274.0	2.20
P6KE220A	P6KE220CA	185.00	209.00	231.00	1.0	5.0	328.0	1.83
P6KE250A	P6KE250CA	214.00	237.00	263.00	1.0	5.0	344.0	1.75
P6KE300A	P6KE300CA	256.00	285.00	315.00	1.0	5.0	414.0	1.45
P6KE350A	P6KE350CA	300.00	332.00	368.00	1.0	5.0	482.0	1.25
P6KE400A	P6KE400CA	342.00	380.00	420.00	1.0	5.0	548.0	1.10
P6KE440A	P6KE440CA	376.00	418.00	462.00	1.0	5.0	602.0	1.00

Notes: 1. Suffix 'C' denotes bidirectional device.
 2. For bidirectional devices having V_R of 10 volts and under, the I_R limit is doubled.





RATINGS AND CHARACTERISTIC CURVES P6KE series

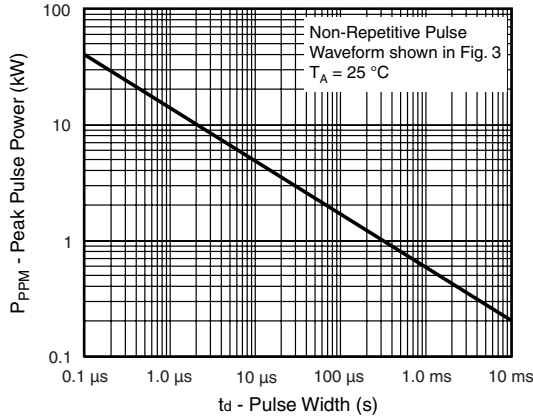


Figure 1. Peak Pulse Power Rating Curve

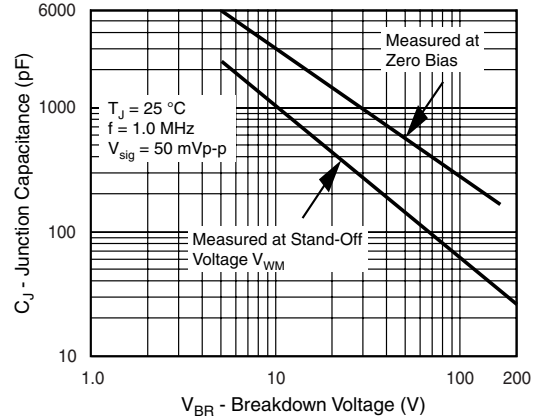


Figure 4. Typical Junction Capacitance Uni-Directional

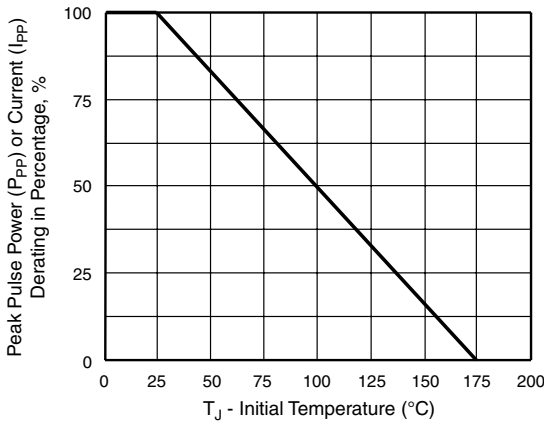


Figure 2. Pulse Power or Current vs. Initial Junction Temperature

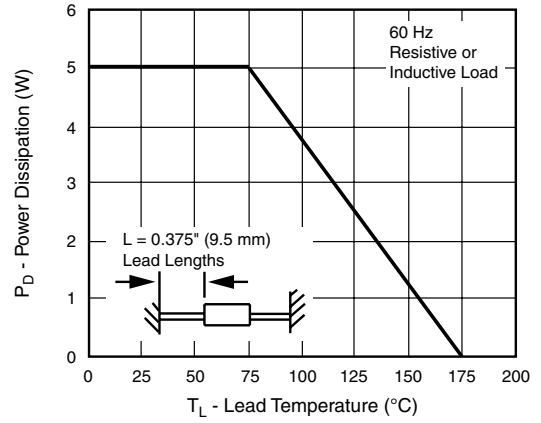


Figure 5. Power Derating Curve

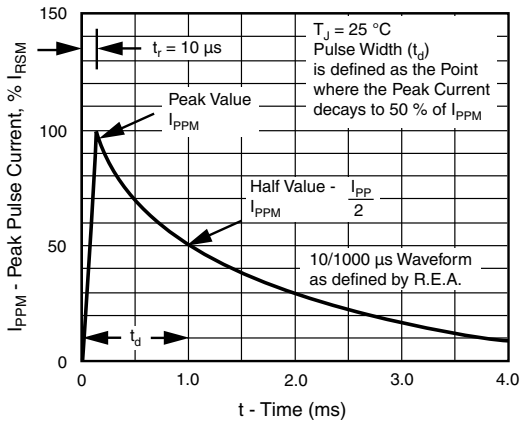


Figure 3. Pulse Waveform

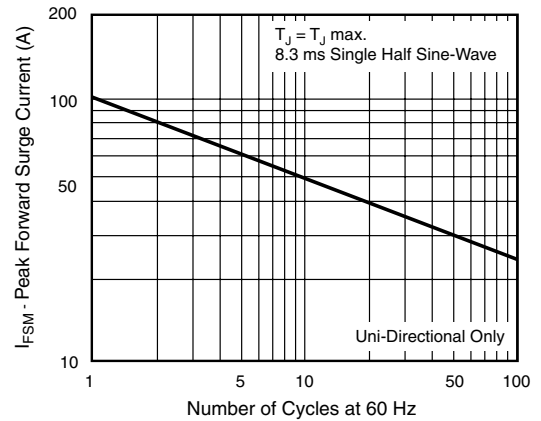


Figure 6. Maximum Non-Repetitive Forward Surge Current

