

## FEATURES

- Glass passivated junction.
- 600W Peak Pulse Power capability at 1.0 ms.
- Excellent clamping capability.
- Low incremental surge resistance.
- Fast response time; typically less than 1.0 ps from 0 volts to BV for unidirectional and 5.0 ns for bidirectional.
- Typical  $I_R$  less than 1.0  $\mu$ A above 10V.



DO-204AC/DO-15

## MECHANICAL DATA

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

## DEVICES FOR BIPOLAR APPLICATIONS

- Bidirectional types use CA suffix.
- Electrical Characteristics apply in both directions.

## MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified.

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A= 25^{\circ}\text{C}$ , $T_p= 1\text{ms}$ (Note 1)	$P_{PPK}$	Minimum 600	Watts
Steady State Power Dissipation at $T_L= 75^{\circ}\text{C}$ Lead Lengths 0.375 Inch 9.5mm (Note 2)	$P_D$	3.2	
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 3)	$I_{FSM}$	40	Amps
Maximum Instantaneous Forward Voltage at 50.0A for Unidirectional Only (Note 4)	$V_F$	3.5 / 5.0	Volts
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 175	$^{\circ}\text{C}$

Notes: Notes: 1. Non-repetitive current pulse and derated above  $T_A= 25^{\circ}\text{C}$ .

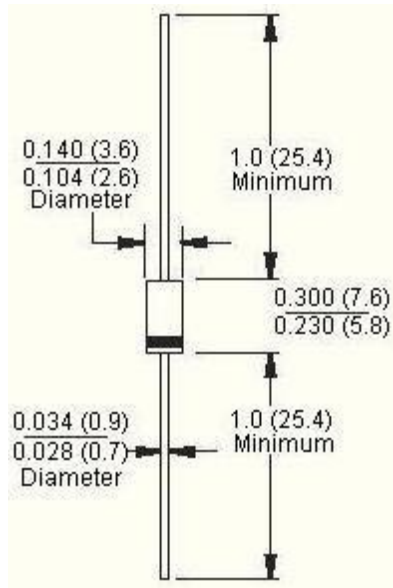
2. Mounted on copper pad area of 1.6 x 1.6 inch (40 x 40mm) per.

3. 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

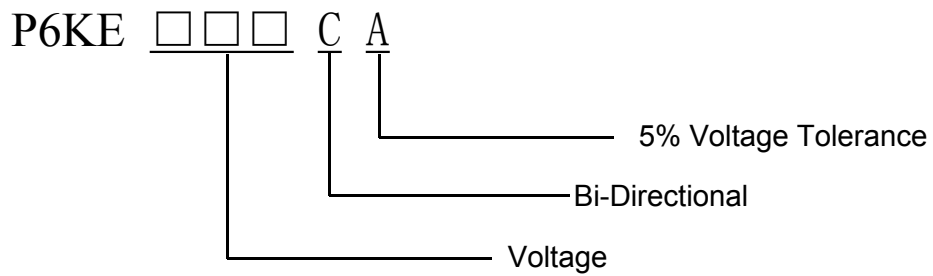
4.  $V_F= 3.5\text{V}$  for devices of  $V_{BR} \leq 200\text{V}$  and  $V_F= 5.0\text{V}$  maximum for devices of  $V_{BR} > 200\text{V}$ .

**PACKAGE DIMENSIONS**

**DO-204AC/DO-15**



**ORDERING INFORMATION**



**PACKAGING**

Part Number	Component Package	Quantity
P6KExxxA/CA	DO-204AC/DO-15	2000

### ELECTRICAL CHARACTERISTICS

P6KE DEVICES	REVERSE STAND-OFF VOLTAGE $V_{RWM}(V)$	BREAKDOWN VOLTAGE Min.@ $I_T$ $V_{BR}$ Min.(V)	BREAKDOWN VOLTAGE Max.@ $I_T$ $V_{BR}$ Max.(V)	TEST CURRENT $I_T(mA)$	MAXIMUM CLAMPING VOLTAGE @ $I_{pp}$ $V_C(V)$	PEAK PULSE CURRENT $I_{pp}(A)$	REVERSE LEAKAGE @ $V_{RWM}$ $I_R(\mu A)$
P6KE6.8CA/A	5.80	6.45	7.14	10	10.5	57.0	1000
P6KE7.5CA/A	6.40	7.13	7.88	10	11.3	53.0	500
P6KE8.2CA/A	7.02	7.79	8.61	10	12.1	50.0	200
P6KE9.1CA/A	7.78	8.65	9.55	1	13.4	45.0	50
P6KE10CA/A	8.55	9.50	10.50	1	14.5	41.0	10
P6KE11CA/A	9.40	10.50	11.60	1	15.6	38.0	1
P6KE12CA/A	10.20	11.40	12.60	1	16.7	36.0	1
P6KE13CA/A	11.10	12.40	13.70	1	18.2	33.0	1
P6KE15CA/A	12.80	14.30	15.80	1	21.2	28.0	1
P6KE16CA/A	13.60	15.20	16.80	1	22.5	27.0	1
P6KE18CA/A	15.30	17.10	18.90	1	25.2	24.0	1
P6KE20CA/A	17.10	19.00	21.00	1	27.7	22.0	1
P6KE22CA/A	18.80	20.90	23.10	1	30.6	20.0	1
P6KE24CA/A	20.50	22.80	25.20	1	33.2	18.0	1
P6KE27CA/A	23.10	25.70	28.40	1	37.5	16.0	1
P6KE30CA/A	25.60	28.50	31.50	1	41.4	14.4	1
P6KE33CA/A	28.20	31.40	34.70	1	45.7	13.2	1
P6KE36CA/A	30.80	34.20	37.80	1	49.9	12.0	1
P6KE39CA/A	33.30	37.10	41.00	1	53.9	11.2	1
P6KE43CA/A	36.80	40.90	45.20	1	59.3	10.1	1
P6KE47CA/A	40.20	44.70	49.40	1	64.8	9.3	1
P6KE51CA/A	43.60	48.50	53.60	1	70.1	8.6	1
P6KE56CA/A	47.80	53.20	58.80	1	77.0	7.8	1
P6KE62CA/A	53.00	58.90	65.10	1	85.0	7.1	1
P6KE68CA/A	58.10	64.60	71.40	1	92.0	6.5	1
P6KE75CA/A	64.10	71.30	78.80	1	103.0	5.8	1
P6KE82CA/A	70.10	77.90	86.10	1	113.0	5.3	1
P6KE91CA/A	77.80	86.50	95.50	1	125.0	4.8	1
P6KE100CA/A	85.50	95.00	105.00	1	137.0	4.4	1
P6KE110CA/A	94.00	105.00	116.00	1	152.0	4.0	1
P6KE120CA/A	102.00	114.00	126.00	1	165.0	3.6	1
P6KE130CA/A	111.00	124.00	137.00	1	179.0	3.3	1
P6KE150CA/A	128.00	143.00	158.00	1	207.0	2.9	1
P6KE160CA/A	136.00	152.00	168.00	1	219.0	2.7	1
P6KE170CA/A	145.00	162.00	179.00	1	234.0	2.6	1
P6KE180CA/A	154.00	171.00	189.00	1	246.0	2.4	1
P6KE200CA/A	171.00	190.00	210.00	1	274.0	2.2	1
P6KE220CA/A	185.00	209.00	231.00	1	328.0	1.9	1
P6KE250CA/A	214.00	237.00	263.00	1	344.0	1.8	1
P6KE300CA/A	256.00	285.00	315.00	1	414.0	1.5	1
P6KE350CA/A	300.00	332.00	368.00	1	482.0	1.3	1
P6KE400CA/A	342.00	380.00	420.00	1	548.0	1.1	1
P6KE440CA/A	376.00	418.00	462.00	1	602.0	1.04	1
P6KE480CA/A	408.00	456.00	504.00	1	658.0	0.9	1

### TYPICAL CHARACTERISTICS

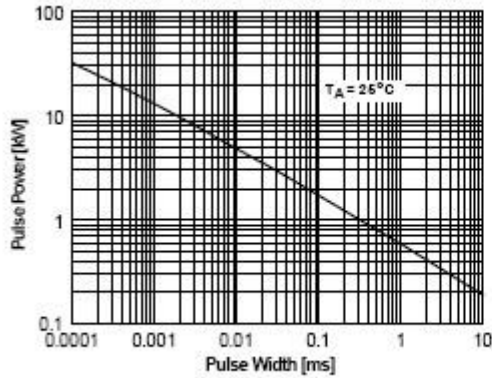


Figure 1. Peak Pulse Power Rating Curve

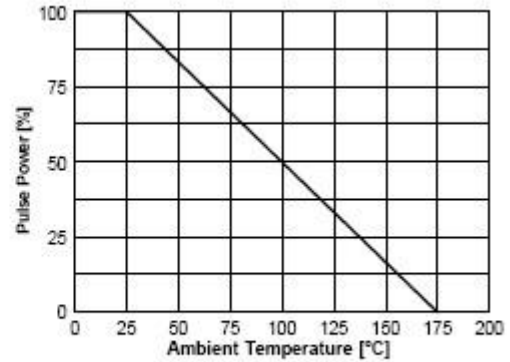


Figure 2. Pulse Derating Curve

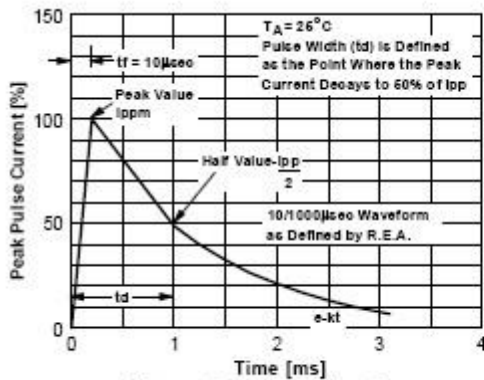


Figure 3. Pulse Waveform

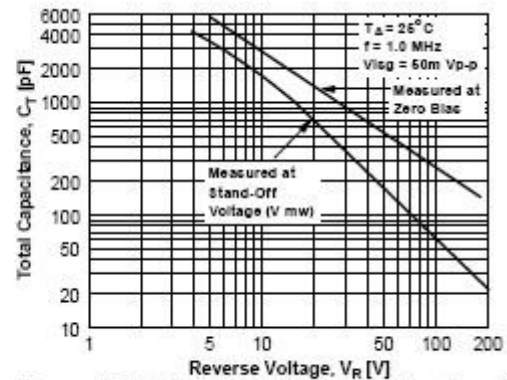


Figure 4. Total Capacitance - Unidirectional

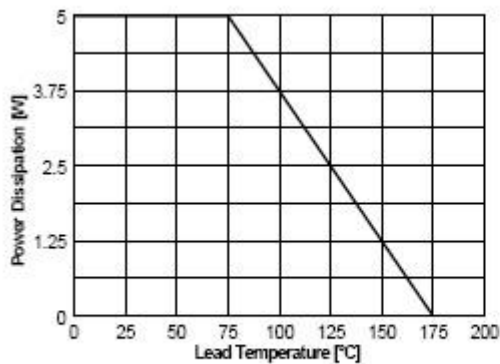


Figure 5. Steady State Power Derating Curve

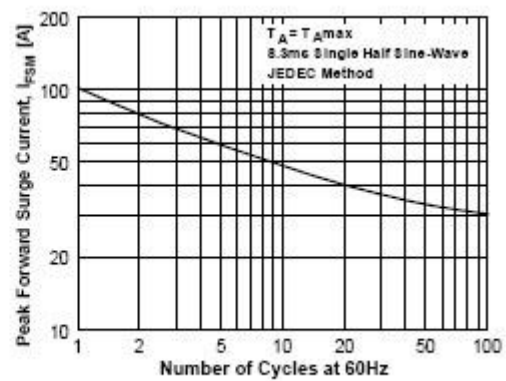


Figure 6. Non-Repetitive Surge Current

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