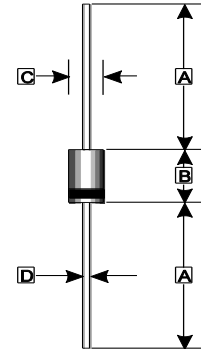


A suffix of "-C" specifies halogen & RoHS compliant

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated junction
- 600W peak pulse power capability with a 10/1000µs waveform, repetition rate(duty cycle): 0.01%
- Excellent clamping capability
- Low incremental surge resistance
- Very fast response time
- High temp. soldering guaranteed: 265°C/10 seconds, 0.375"(9.5mm) lead length, 5lbs.(2.3kg) tension

DO-15



REF.	Millimeter	
	Min.	Max.
A	25.4 (TYP)	
B	5.80	7.60
C	2.60	3.60
D	0.70	0.90

MECHANICAL DATA

- Case: DO-15
- Case Material: Molded Plastic
- Terminals: Solder plated axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: For unidirectional types the color band denotes the cathode, which is positive with respect to the anode under normal TVS operation
- Mounting Position: Any

ORDER INFORMATION

Part Number	Type
P6KE Series	Lead (Pb)-free
P6KE Series-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

Characteristic	Symbol	Rating	Unit
Peak Power Dissipation ¹ @10/1000µs waveform (Fig. 1)	P _{PP}	Minimum 600	W
Peak Pulse Current @10/1000µs waveform ¹	I _{PP}	(See next table.)	A
Steady State Power Dissipation ²	T _L =75°C P _D	5	W
Peak Forward Surge Current ³ @8.3ms single half sine-wave uni-directional only	I _{FSM}	100	A
Maximum Instantaneous Forward Voltage ⁴ @50A for uni-directional only	V _F	3.5/5	V
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Thermal Resistance Ratings			
Thermal Resistance Junction-Lead	R _{θJL}	20	°C/ W
Thermal Resistance Junction-Ambient	R _{θJA}	75	

Notes:

1. Non-repetitive current pulse, on Fig. 3 and derated above T_A=25°C per Fig. 2.
2. Mounted on copper pad area of 1.6 x 1.6" (40 x 40mm) per Fig. 5.
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
4. V_F=3.5V for devices of V_{BR}<220V, and V_F=5V max. for devices of V_{BR}>220V.

ELECTRICAL CHARACTERISTIC ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage V_C @ I_{PP}	Peak Pulse Current	Reverse Leakage I_R @ V_{RWM}	Maximum Temperature Coefficient Of V_{BR}
			Min.	Max.					
Directional		V_{RRM}	V_{BR}		I_T	V_C	I_{PP}	I_R	-
Uni	Bi	V	V		mA	V	A	μA	%/ $^{\circ}\text{C}$
P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	10.5	57.1	1000	0.057
P6KE7.5A	P6KE7.5CA	6.4	7.13	7.88	10	11.3	53.1	500	0.061
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10	12.1	49.6	200	0.065
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	1	13.4	44.8	50	0.068
P6KE10A	P6KE10CA	8.55	9.5	10.5	1	14.5	41.4	10	0.073
P6KE11A	P6KE11CA	9.40	10.5	11.6	1	15.6	38.5	5	0.075
P6KE12A	P6KE12CA	10.2	11.4	12.6	1	16.7	35.9	5	0.078
P6KE13A	P6KE13CA	11.1	12.4	13.7	1	18.2	33	5	0.081
P6KE15A	P6KE15CA	12.8	14.3	15.8	1	21.2	28.3	1	0.084
P6KE16A	P6KE16CA	13.6	15.2	16.8	1	22.5	26.7	1	0.086
P6KE18A	P6KE18CA	15.3	17.1	18.9	1	25.2	23.8	1	0.088
P6KE20A	P6KE20CA	17.1	19	21	1	27.7	21.7	1	0.090
P6KE22A	P6KE22CA	18.8	20.9	23.1	1	30.6	19.6	1	0.092
P6KE24A	P6KE24CA	20.5	22.8	25.2	1	33.2	18.1	1	0.094
P6KE27A	P6KE27CA	23.1	25.7	28.4	1	37.5	16	1	0.096
P6KE30A	P6KE30CA	25.6	28.5	31.5	1	41.4	14.5	1	0.097
P6KE33A	P6KE33CA	28.2	31.4	34.7	1	45.7	13.1	1	0.098
P6KE36A	P6KE36CA	30.8	34.2	37.8	1	49.9	12	1	0.099
P6KE39A	P6KE39CA	33.3	37.1	41	1	53.9	11.1	1	0.100
P6KE43A	P6KE43CA	36.8	40.9	45.2	1	59.3	10.1	1	0.101
P6KE47A	P6KE47CA	40.2	44.7	49.4	1	64.8	9.3	1	0.101
P6KE51A	P6KE51CA	43.6	48.5	53.6	1	70.1	8.6	1	0.102
P6KE56A	P6KE56CA	47.8	53.2	58.8	1	77	7.8	1	0.103
P6KE62A	P6KE62CA	53	58.9	65.1	1	85	7.1	1	0.104
P6KE68A	P6KE68CA	58.1	64.6	71.4	1	92	6.5	1	0.104
P6KE75A	P6KE75CA	64.1	71.3	78.8	1	103	5.8	1	0.105
P6KE82A	P6KE82CA	70.1	77.9	86.1	1	113	5.3	1	0.105
P6KE91A	P6KE91CA	77.8	86.5	95.5	1	125	4.8	1	0.106
P6KE100A	P6KE100CA	85.5	95	105	1	137	4.4	1	0.106
P6KE110A	P6KE110CA	94	105	116	1	152	3.9	1	0.107
P6KE120A	P6KE120CA	102	114	126	1	165	3.6	1	0.107
P6KE130A	P6KE130CA	111	124	137	1	179	3.4	1	0.107

ELECTRICAL CHARACTERISTIC ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage V_C @ I_{PP}	Peak Pulse Current	Reverse Leakage I_R @ V_{RWM}	Maximum Temperature Coefficient Of V_{BR}
			Min	Max					
Directional		V_{RWM}	V_{BR}		I_T	V_C	I_{PP}	I_R	-
Uni	Bi	V	V		mA	V	A	μA	%/ $^{\circ}\text{C}$
P6KE150A	P6KE150CA	128	143	158	1	207	2.9	1	0.108
P6KE160A	P6KE160CA	136	152	168	1	219	2.7	1	0.108
P6KE170A	P6KE170CA	145	162	179	1	234	2.6	1	0.108
P6KE180A	P6KE180CA	154	171	189	1	246	2.4	1	0.108
P6KE200A	P6KE200CA	171	190	210	1	274	2.2	1	0.108
P6KE220A	P6KE220CA	185	209	231	1	328	1.8	1	0.108
P6KE250A	P6KE250CA	214	237	263	1	344	1.7	1	0.110
P6KE300A	P6KE300CA	256	285	315	1	414	1.4	1	0.110
P6KE350A	P6KE350CA	300	333	368	1	482	1.2	1	0.110
P6KE400A	P6KE400CA	342	380	420	1	548	1.1	1	0.110
P6KE440A	P6KE440CA	376	418	462	1	602	1.0	1	0.110
P6KE480A	P6KE480CA	408	456	504	1	658	0.9	1	0.110
P6KE510A	P6KE510CA	434	485	535	1	698	0.9	1	0.110
P6KE530A	P6KE530CA	450	503.5	556.5	1	725	0.8	1	0.110
P6KE540A	P6KE540CA	459	513	567	1	740	0.8	1	0.110
P6KE550A	P6KE550CA	467	522.5	577.5	1	760	0.8	1	0.110

Notes:

1. V_{BR} measured after I_T applied for 300us, I_T =square wave pulse or equivalent.
2. Surge current waveform per Fig. 3 and derate per Fig. 2.
3. For Bi-directional types with V_{WM} of 10 Volts and less, the I_D limit is doubled.
4. All terms and symbols are consistent with ANSI/IEEE C62.35.

TYPICAL CHARACTERISTICS

Fig. 1 – Peak Pulse Power Rating Curve

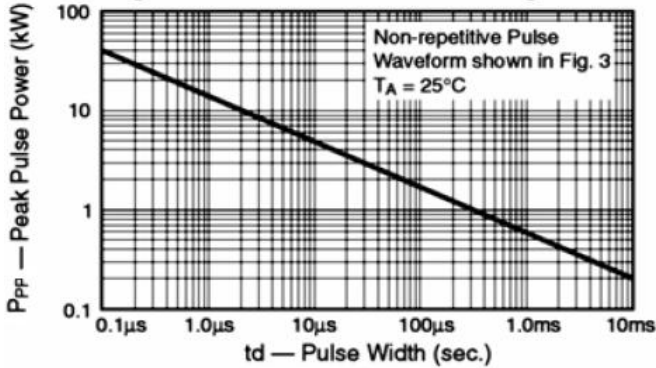


Fig. 2 – Pulse Derating Curve

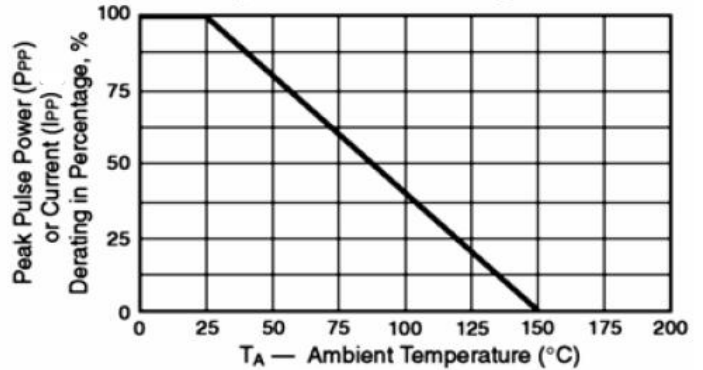


Fig. 3 – Pulse Waveform

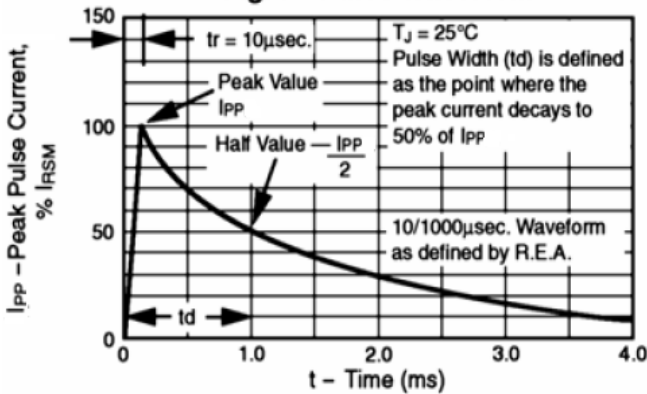


Fig. 4 – Typ. Junction Capacitance Uni-Directional

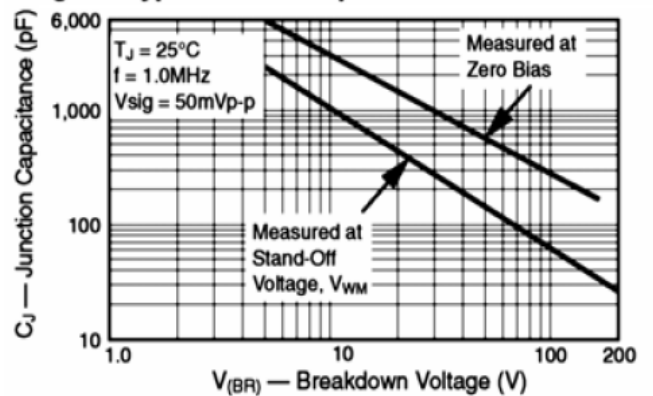


Fig. 5 – Steady State Power Derating Curve

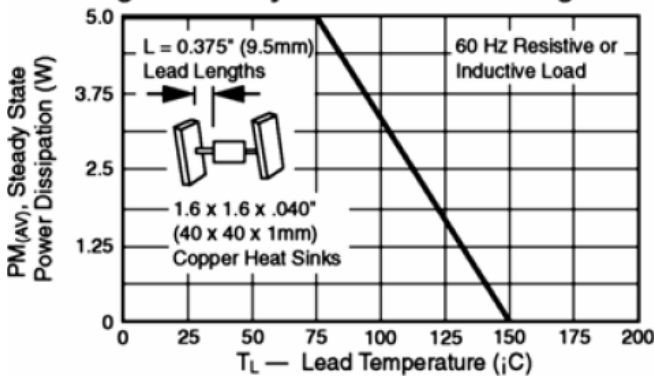


Fig. 6 - Max. Non-Repetitive Forward Surge Current

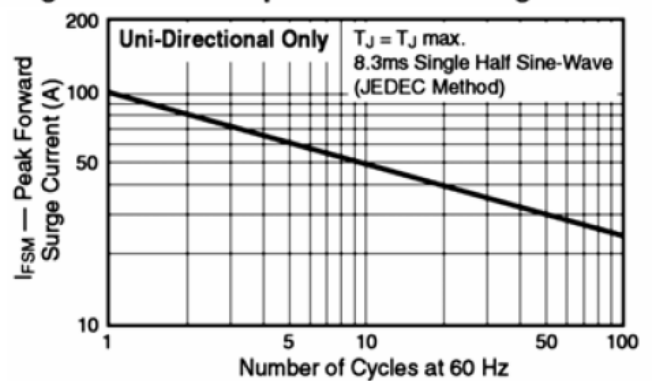


Fig. 7 – Typ. Reverse Leakage Characteristics

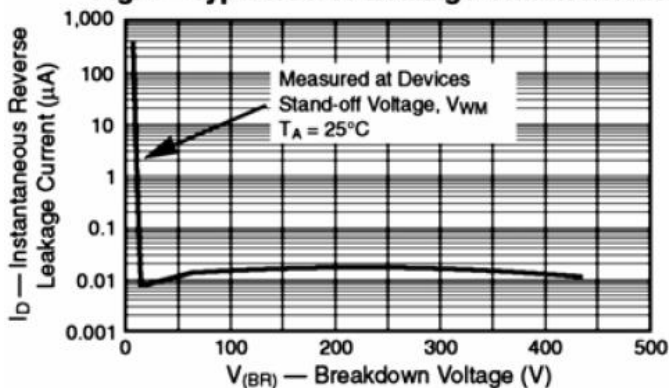


Fig. 8 – Typ. Transient Thermal Impedance

