

P6KE SERIES

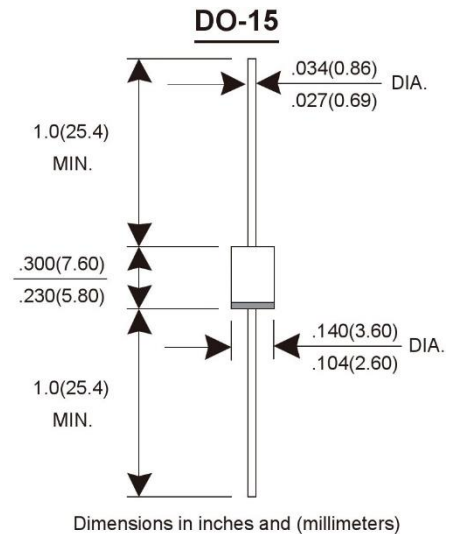
Breakdown Voltage 6.8 to 600 V
Peak Pulse Power 600W

FEATURES

- Glass passivated chip
- 600W peak pulse power capability at 10/1000 μ s waveform, repetition rate (duty cycles):0.01%
- Low leakage
- Excellent clamping capability
- Very fast response time
- RoHS compliant

MECHANICAL DATA

- Case: Molded plastic, DO-15
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Solderable per MIL-STD-202, method 208
- Polarity: Color band denotes cathode end
- Mounting position: Any



MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

$T_A=25^{\circ}\text{C}$ unless otherwise noted

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform (Note 1)	P_{PPM}	600	W
Peak forward surge current, 8.3 ms single half sine-wave (Note 2)	I_{FSM}	100	A
Power dissipation on infinite heatsink at $T_L=75^{\circ}\text{C}$	P_D	5.0	W
Maximum instantaneous forward voltage at 50A for unidirectional only (Note 3)	V_F	3.5 / 5.0	V
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	$^{\circ}\text{C}/\text{W}$
Typical thermal resistance junction to lead	$R_{\theta JL}$	20	$^{\circ}\text{C}/\text{W}$
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +175	$^{\circ}\text{C}$

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

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

(3) $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage $V_{BR@I_T}$			Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)
		Min (V)	Max (V)	I_T (mA)				
P6KE6.8A	P6KE6.8CA	6.46	7.14	10	1000	5.8	57.14	10.5
P6KE7.5A	P6KE7.5CA	7.13	7.88	10	500	6.4	53.10	11.3
P6KE8.2A	P6KE8.2CA	7.79	8.61	10	200	7.0	49.59	12.1
P6KE9.1A	P6KE9.1CA	8.65	9.56	1	50	7.8	44.78	13.4
P6KE10A	P6KE10CA	9.50	10.50	1	10	8.6	41.38	14.5
P6KE11A	P6KE11CA	10.45	11.55	1	5	9.4	38.46	15.6
P6KE12A	P6KE12CA	11.40	12.60	1	5	10.2	35.93	16.7
P6KE13A	P6KE13CA	12.35	13.65	1	1	11.1	32.97	18.2
P6KE15A	P6KE15CA	14.25	15.75	1	1	12.8	28.30	21.2
P6KE16A	P6KE16CA	15.20	16.80	1	1	13.6	26.67	22.5
P6KE18A	P6KE18CA	17.10	18.90	1	1	15.3	23.81	25.2
P6KE20A	P6KE20CA	19.00	21.00	1	1	17.1	21.66	27.7
P6KE22A	P6KE22CA	20.90	23.10	1	1	18.8	19.61	30.6
P6KE24A	P6KE24CA	22.80	25.20	1	1	20.5	18.07	33.2
P6KE27A	P6KE27CA	25.65	28.35	1	1	23.1	16.00	37.5
P6KE30A	P6KE30CA	28.50	31.50	1	1	25.6	14.49	41.4
P6KE33A	P6KE33CA	31.35	34.65	1	1	28.2	13.13	45.7
P6KE36A	P6KE36CA	34.20	37.80	1	1	30.8	12.02	49.9
P6KE39A	P6KE39CA	37.05	40.95	1	1	33.3	11.13	53.9
P6KE43A	P6KE43CA	40.85	45.15	1	1	36.8	10.12	59.3
P6KE47A	P6KE47CA	44.65	49.35	1	1	40.2	9.26	64.8
P6KE51A	P6KE51CA	48.45	53.55	1	1	43.6	8.56	70.1
P6KE56A	P6KE56CA	53.20	58.80	1	1	47.8	7.79	77.0
P6KE62A	P6KE62CA	58.90	65.10	1	1	53.0	7.06	85.0
P6KE68A	P6KE68CA	64.60	71.40	1	1	58.1	6.52	92.0
P6KE75A	P6KE75CA	71.25	78.75	1	1	64.1	5.83	103.0
P6KE82A	P6KE82CA	77.90	86.10	1	1	70.1	5.31	113.0
P6KE91A	P6KE91CA	86.45	95.55	1	1	77.8	4.80	125.0
P6KE100A	P6KE100CA	95.00	105.0	1	1	85.5	4.38	137.0
P6KE110A	P6KE110CA	104.5	115.5	1	1	94.0	3.95	152.0
P6KE120A	P6KE120CA	114.0	126.0	1	1	102.0	3.64	165.0
P6KE130A	P6KE130CA	123.5	136.5	1	1	111.0	3.35	179.0
P6KE150A	P6KE150CA	142.5	157.5	1	1	128.0	2.90	207.0
P6KE160A	P6KE160CA	152.0	168.0	1	1	136.0	2.74	219.0
P6KE170A	P6KE170CA	161.5	178.5	1	1	145.0	2.56	234.0
P6KE180A	P6KE180CA	171.0	189.0	1	1	154.0	2.44	246.0
P6KE200A	P6KE200CA	190.0	210.0	1	1	171.0	2.19	274.0
P6KE220A	P6KE220CA	209.0	231.0	1	1	185.0	1.83	328.0
P6KE250A	P6KE250CA	237.5	262.5	1	1	214.0	1.74	344.0
P6KE300A	P6KE300CA	285.0	315.0	1	1	256.0	1.45	414.0
P6KE350A	P6KE350CA	332.5	367.5	1	1	299.3	1.24	482.0
P6KE380A	P6KE380CA	361.0	399.0	1	1	324.9	1.14	524.4
P6KE400A	P6KE400CA	380.0	420.0	1	1	342.0	1.09	548.0
P6KE440A	P6KE440CA	418.0	462.0	1	1	376.2	0.99	607.2
P6KE500A	P6KE500CA	475.0	525.0	1	1	427.5	0.87	690.0
P6KE520A	P6KE520CA	494.0	546.0	1	1	444.6	0.84	717.6
P6KE550A	P6KE550CA	522.5	577.5	1	1	470.3	0.79	759.0
P6KE600A	P6KE600CA	570.0	630.0	1	1	513.0	0.72	828.0

Add suffix "CA" after part number to specify Bi-directional devices.

For Bi-directional type having V_R of 10 volts and less, the I_R limit is double.

RATINGS AND CHARACTERISTICS CURVES P6KE SERIES

Fig.1 - Peak Pulse Power Rating Curve

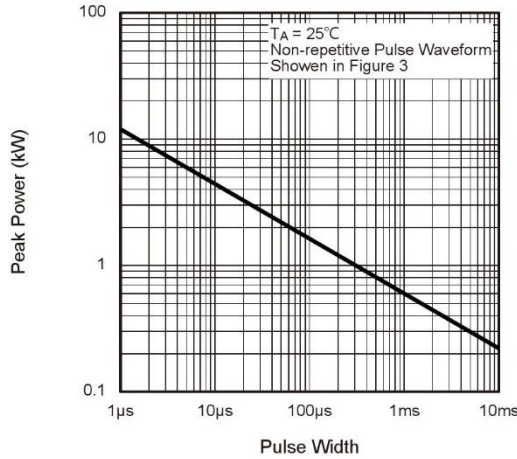


Fig.2 - Pulse Derating Curve

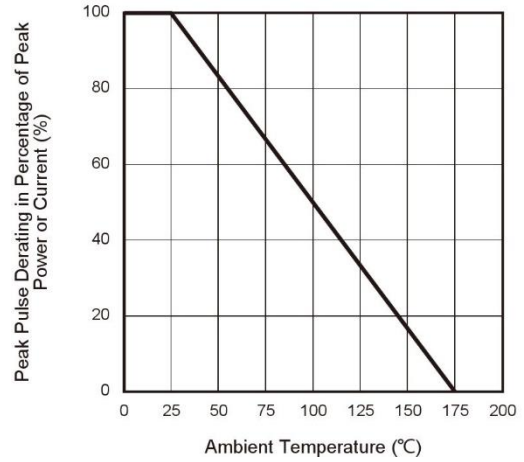


Fig.3 - Pulse Waveform

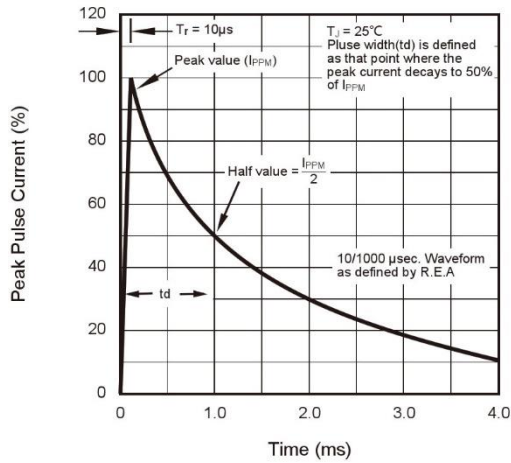


Fig.4 - Typical Junction Capacitance

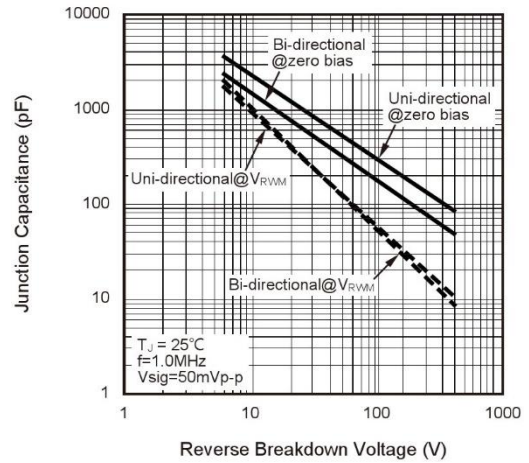


Fig.5 - Steady State Power Derating Curve

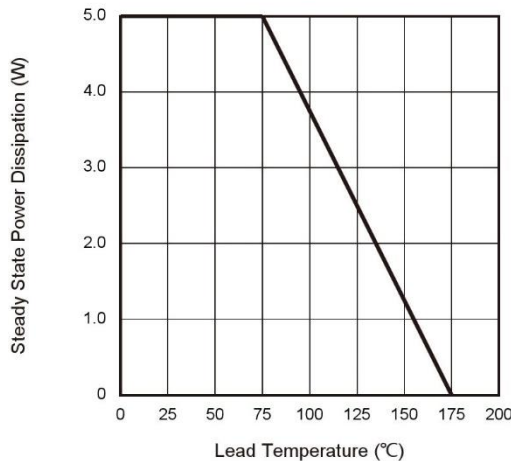
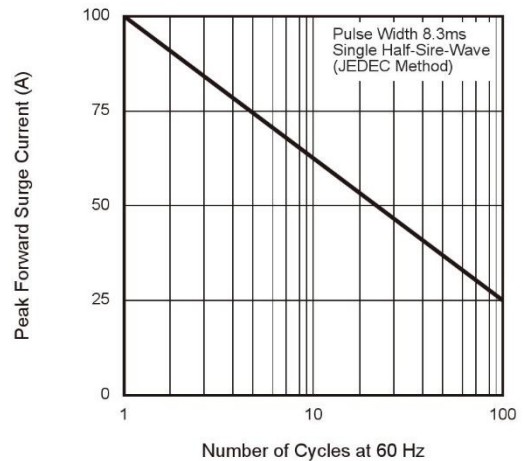


Fig.6 - Maximum Non-Repetitive Surge Current



All products, product specifications and data are subject to change without notice to improve reliability, function or design or otherwise.