

P6KE SERIES

Transient Voltage Suppressor Rectifier

Features

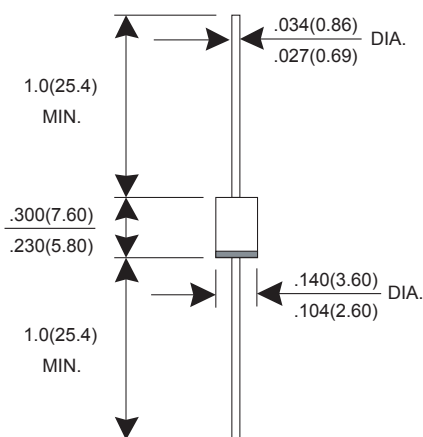
- ★ Glass passivated chip
- ★ Low profile package
- ★ 600W peak pulse power capability at 10/1000 us waveform, repetition rate (duty cycle): 0.01%
- ★ Low leakage
- ★ Excellent clamping capability
- ★ Fast response time
- ★ RoHS compliant

Mechanical Data

- ★ Case: DO-15, Molded plastic has UL flammability classification 94V-0
- ★ Terminal: Solder plated, solderable per MIL-STD-202, Method 208
- ★ Polarity: Cathode band denotes uni-directional device except bi-directional device
- ★ Weight: 0.40 gram

Working Voltage 5.8 to 513 V
Power Dissipation 600 Watts

DO-15



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

T_A= 25°C unless otherwise noted

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power Dissipation at T _A =25°C by 10/1000us waveform fig.1 (Note 1,2)	PPPM	600	Watts
Peak Forward Surge Current, 8.3ms single Half sine-wave super imposed on rated load (Note 3)	I _{FSM}	100	A
Steady State Power Dissipation at T _L =75°C	P _D	5.0	Watts
Maximum Instantaneous forward voltage at 50A for unidirectional devices only (Note 4)	V _F	3.5 / 5.0	V
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W
Typical Thermal Resistance Junction to Lead	R _{θJL}	20	°C/W
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 °C per fig. 2.
(2) Mounted on 40 x 40 x 1.0 mm copper pads to each terminal
(3) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle= 4 pulses per minute maximum
(4) V_F<3.5V for V_{BR}≤ 200V and V_F<5.0V for V_{BR}≥ 201V

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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)	$I_T(\text{mA})$				
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	105.00	1	1	85.5	4.38	137.0
P6KE110A	P6KE110CA	104.50	115.50	1	1	94.0	3.95	152.0
P6KE120A	P6KE120CA	114.00	126.00	1	1	102.0	3.64	165.0
P6KE130A	P6KE130CA	123.50	136.50	1	1	111.0	3.35	179.0
P6KE150A	P6KE150CA	142.50	157.50	1	1	128.0	2.90	207.0
P6KE160A	P6KE160CA	152.00	168.00	1	1	136.0	2.74	219.0
P6KE170A	P6KE170CA	161.50	178.50	1	1	145.0	2.56	234.0
P6KE180A	P6KE180CA	171.00	189.00	1	1	154.0	2.44	246.0
P6KE200A	P6KE200CA	190.00	210.00	1	1	171.0	2.19	274.0
P6KE220A	P6KE220CA	209.00	231.00	1	1	185.0	1.83	328.0
P6KE250A	P6KE250CA	237.50	262.50	1	1	214.0	1.74	344.0
P6KE300A	P6KE300CA	285.00	315.00	1	1	256.0	1.45	414.0
P6KE350A	P6KE350CA	332.50	367.50	1	1	299.3	1.24	482.0
P6KE380A	P6KE380CA	361.00	399.00	1	1	324.9	1.14	524.4
P6KE400A	P6KE400CA	380.00	420.00	1	1	342.0	1.09	548.0
P6KE440A	P6KE440CA	418.00	462.00	1	1	376.2	0.99	607.2
P6KE500A	P6KE500CA	475.00	525.00	1	1	427.5	0.87	690.0
P6KE520A	P6KE520CA	494.00	546.00	1	1	444.6	0.84	717.6
P6KE550A	P6KE550CA	522.50	577.50	1	1	470.3	0.79	759.0
P6KE600A	P6KE600CA	570.00	630.00	1	1	513.0	0.72	828.0

Suffix C: Bi-Directional

For bi-directional devices $V_{RWM} \leq 10\text{V}$, the I_R limit is double.

RATINGS AND CHARACTERISTIC CURVES P6KE SERIES

FIG.1 - PULSE RATING CURVE

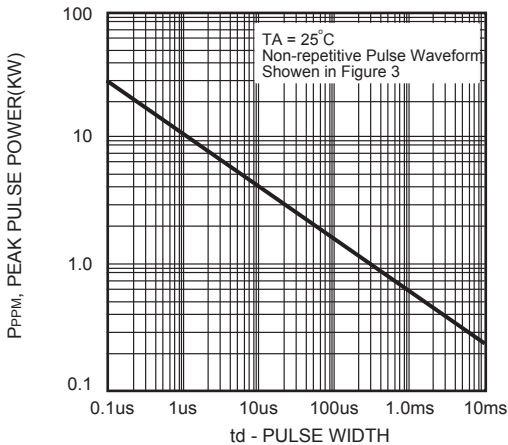


FIG.2 - PULSE DERATING CURVE

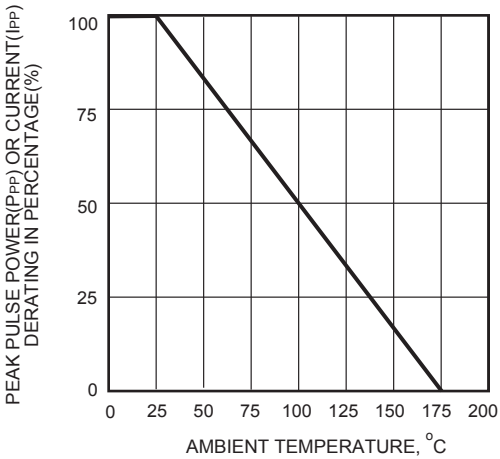


FIG.3 - PULSE WAVEFORM

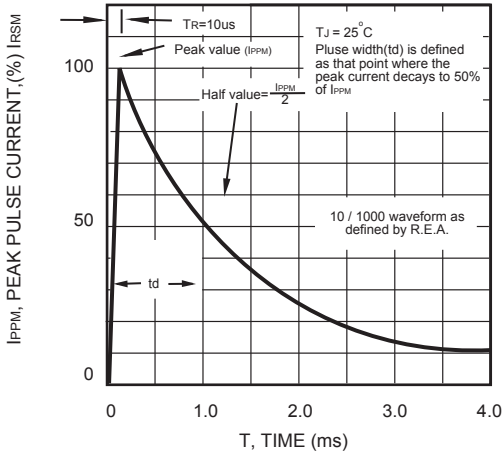


FIG.4 - TYPICAL JUNCTION CAPACITANCE

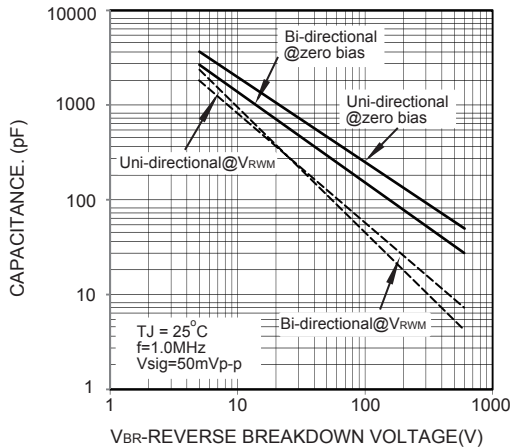


FIG.5 - STEADY STATE POWER DERATING CURVE

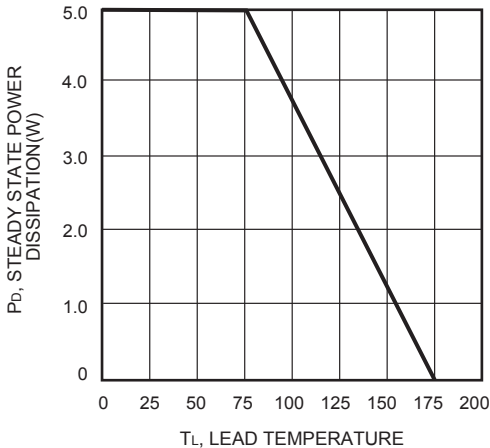


FIG.6 - MAXIMUM NON-REPETITIVE SURGE CURRENT

