

**Unidirectional and Bidirectional Transient Voltage Suppressors****Reverse Voltage 6.8 - 600 Volts**
Power Dissipation - 600 Watts**Features**

- low leakage
- Uni and bidirectional unit
- Excellent clamping capability
- Fast response time

Mechanical Data

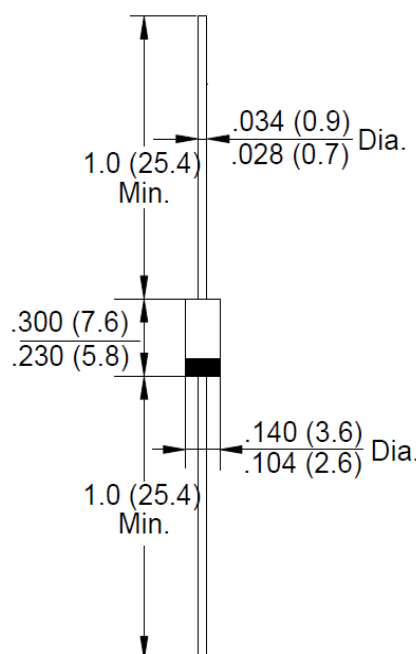
- Case: DO-15 molded plastic

- Polarity: Color band denotes cathode

Note: Products with logo  or  are made by HY Electronic (Cayman) Limited.

Applications

- Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET.

DO-15**RoHS**
COMPLIANT

Package Outline Dimensions in Inches (Millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	Value	Unit
Peak Power Dissipation at $T_A=25^\circ\text{C}$ $T_P=1\text{ms}$ (Note 1)	P_{PK}	600 (Min)	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	100	A
Steady State Power Dissipation at $T_L=75^\circ\text{C}$ Lead Lengths 0.375"(9.5mm), See Fig. 6	$P_{M(AV)}$	5	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Devices Only (Note 2)	V_F	See Note 3	$^\circ\text{C/W}$
Operating Junction Temperature Range	T_J	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ\text{C}$

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

2. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

3. $V_F=3.5\text{V}$ on P6KE6.8 thru P6KE200A devices and $V_F=5.0\text{V}$ on P6KE220A thru P6KE400A devices.



Fig. 1 - Maximum Non-Repetitive Peak Forward Surge Current

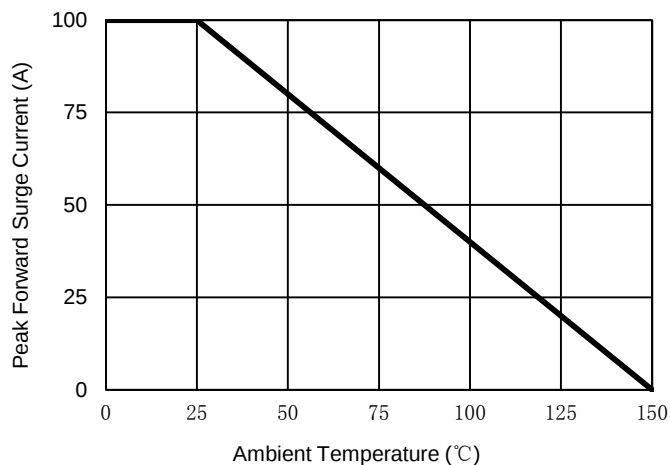


Fig. 2 - Maximum Non-Repetitive Surge Current

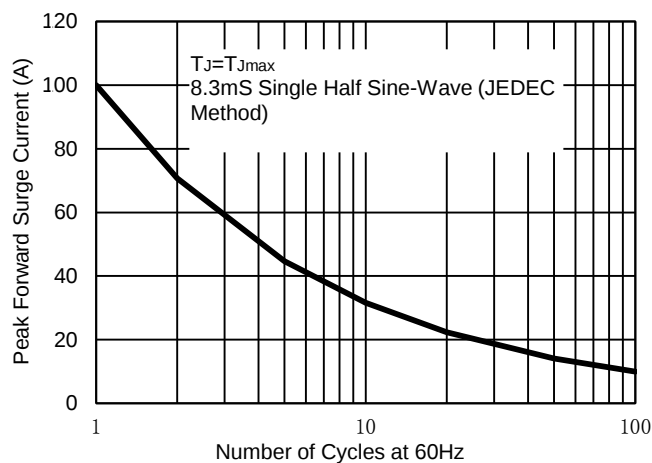


Fig. 3 - Pulse Waveform

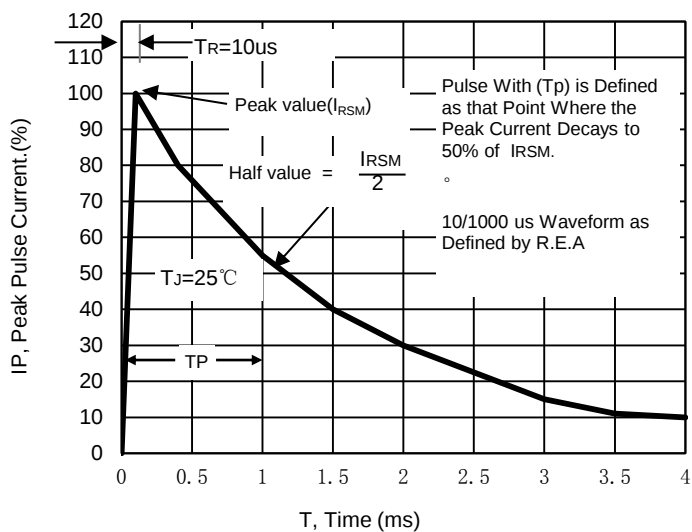


Fig.4- Typical Junction Capacitance

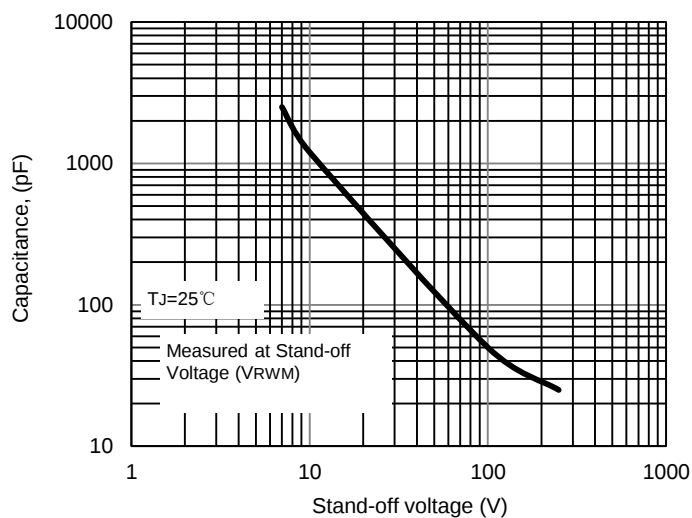


Fig. 5 - Pulse Rating Curve

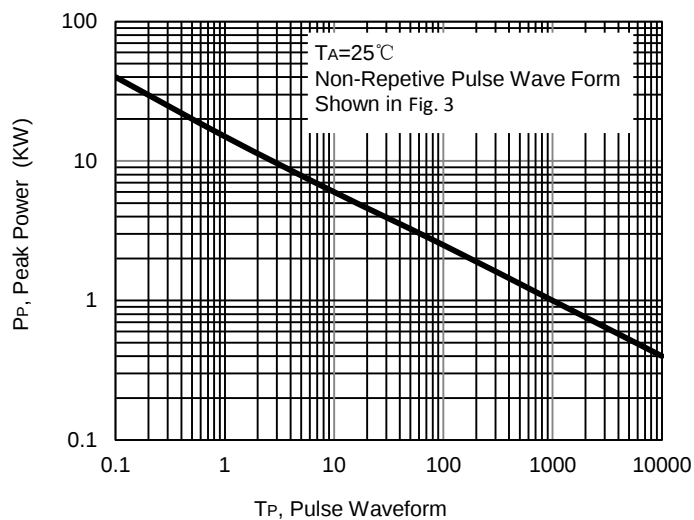
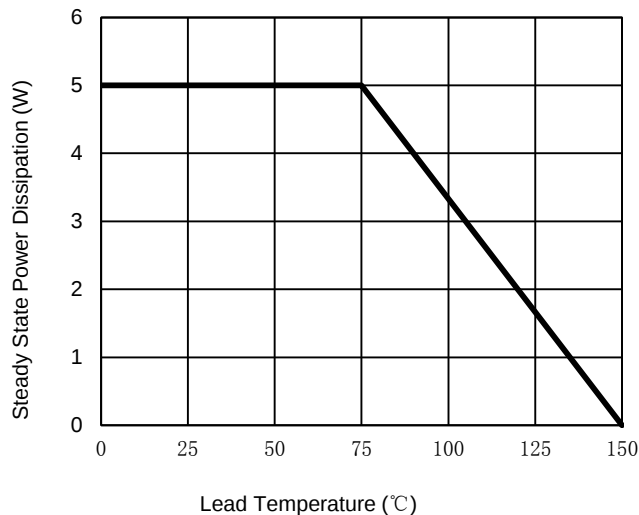


Fig. 6 - Steady State Power Derating Curve



The curve above is for reference only.



P6KE SERIES

Device Uni-directional	Device Bi-directional	Reverse Stand off Voltage	Breakdown Voltage at IT2 V(BR) (V)			Maximum Reverse Leakage at VR	Maximum Clamping Voltage at IPPM	Maximum Peak Pulse Surge Current ⁽³⁾	Max. Voltage Temp.
(UNI)	(BI)	VR(V)	Min(V)	Max(V)	It(mA)	IR(μA)	Vc(V)	Ipp(A)	mV/°C
P6KE6.8A	P6KE6.8CA	5.80	6.45	7.14	10	1000	10.5	57.0	0.057
P6KE7.5A	P6KE7.5CA	6.40	7.13	7.88	10	500	11.3	53.0	0.061
P6KE8.2A	P6KE8.2CA	7.02	7.79	8.61	10	200	12.1	50.0	0.065
P6KE9.1A	P6KE9.1CA	7.78	8.65	9.55	1	50	13.4	45.0	0.068
P6KE10A	P6KE10CA	8.55	9.50	10.50	1	10	14.5	41.0	0.073
P6KE11A	P6KE11CA	9.40	10.50	11.60	1	5	15.6	38.0	0.075
P6KE12A	P6KE12CA	10.20	11.40	12.60	1	5	16.7	36.0	0.078
P6KE13A	P6KE13CA	11.10	12.40	13.70	1	5	18.2	33.0	0.081
P6KE15A	P6KE15CA	12.80	14.30	15.80	1	5	21.2	28.0	0.084
P6KE16A	P6KE16CA	13.60	15.20	16.80	1	5	22.5	27.0	0.086
P6KE18A	P6KE18CA	15.30	17.10	18.90	1	5	25.2	24.0	0.088
P6KE20A	P6KE20CA	17.10	19.00	21.00	1	5	27.7	22.0	0.090
P6KE22A	P6KE22CA	18.80	20.90	23.10	1	5	30.6	20.0	0.092
P6KE24A	P6KE24CA	20.50	22.80	25.20	1	5	33.2	18.0	0.094
P6KE27A	P6KE27CA	23.10	25.70	28.40	1	5	37.5	16.0	0.096
P6KE30A	P6KE30CA	25.60	28.50	31.50	1	5	41.4	14.4	0.097
P6KE33A	P6KE33CA	28.20	31.40	34.70	1	5	45.7	13.2	0.098
P6KE36A	P6KE36CA	30.80	34.20	37.80	1	5	49.9	12.0	0.099
P6KE39A	P6KE39CA	33.30	37.10	41.00	1	5	53.9	11.2	0.100
P6KE43A	P6KE43CA	36.80	40.90	45.20	1	5	59.3	10.1	0.101
P6KE47A	P6KE47CA	40.20	44.70	49.40	1	5	64.8	9.3	0.101
P6KE51A	P6KE51CA	43.60	48.50	53.60	1	5	70.1	8.6	0.102
P6KE56A	P6KE56CA	47.80	53.20	58.80	1	5	77.0	7.8	0.103
P6KE62A	P6KE62CA	53.0	58.9	65.1	1	5	85.0	7.10	0.104
P6KE68A	P6KE68CA	58.1	64.6	71.4	1	5	92.0	6.50	0.104
P6KE75A	P6KE75CA	64.7	71.3	78.8	1	5	103.0	5.80	0.105
P6KE82A	P6KE82CA	70.1	77.9	86.1	1	5	113.0	5.30	0.105
P6KE91A	P6KE91CA	77.8	86.5	95.5	1	5	125.0	4.80	0.106
P6KE100A	P6KE100CA	85.5	95.0	105.0	1	5	137.0	4.40	0.106
P6KE110A	P6KE110CA	94.0	105.0	116.0	1	5	152.0	4.00	0.107
P6KE120A	P6KE120CA	102.0	114.0	126.0	1	5	165.0	3.60	0.107
P6KE130A	P6KE130CA	111.0	124.0	137.0	1	5	179.0	3.30	0.107
P6KE150A	P6KE150CA	128.0	143.0	158.0	1	5	207.0	2.90	0.108
P6KE160A	P6KE160CA	136.0	152.0	168.0	1	5	219.0	2.70	0.108
P6KE170A	P6KE170CA	145.0	162.0	179.0	1	5	234.0	2.60	0.108
P6KE180A	P6KE180CA	154.0	171.0	189.0	1	5	246.0	2.40	0.108
P6KE200A	P6KE200CA	171.0	190.0	210.0	1	5	274.0	2.20	0.108
P6KE220A	P6KE220CA	185.0	209.0	231.0	1	5	328.0	1.83	0.108
P6KE250A	P6KE250CA	214.0	237.0	263.0	1	5	344.4	1.75	0.110
P6KE300A	P6KE300CA	256.0	285.0	315.0	1	5	414.0	1.45	0.110
P6KE350A	P6KE350CA	300.0	332.0	368.0	1	5	482.0	1.25	0.110
P6KE400A	P6KE400CA	342.0	380.0	420.0	1	5	548.0	1.10	0.110
P6KE440A	P6KE440CA	376	418	462	1	5	600	1.00	0.110
P6KE480A	P6KE480CA	408	456	504	1	5	658	0.90	0.110
P6KE510A	P6KE510CA	434	485	535	1	5	698	0.90	0.110
P6KE530A	P6KE530CA	477	503.5	556.5	1	5	725	0.80	0.110
P6KE540A	P6KE540CA	486	513	567	1	5	740	0.80	0.110
P6KE550A	P6KE550CA	495	522.5	577.5	1	5	760	0.80	0.110
P6KE600A	P6KE600CA	512	570	630	1	5	828	0.80	0.110

Notes: 1. Suffix'C' denotes bidirectional device . Suffix'A' denotes 5% tolerance device

2. For bidirectional devices having VR of 10volts and under ,the IR limit is doubled .

P6KE*-A/B-00/99-00/01

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