P6KEG Series

Axial Leaded
Uni/Bi-Directional TVS Diodes

Peak Pulse Power - 600 W
Reverse Breakdown Voltage - 6.8 to 600 V

Description

The P6KEG series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

Features

- Glass passivated chip junction in DO-15 Package
- 600W Peak pulse power capability at 10/1000μs waveform
- Excellent clamping capability
- Typical IR less than 1uA above 12V
- Fast response time: typically less than 1.0ps from 0 Volts to VBR min
- High temperature soldering: 260℃/10s

Mechanical Data

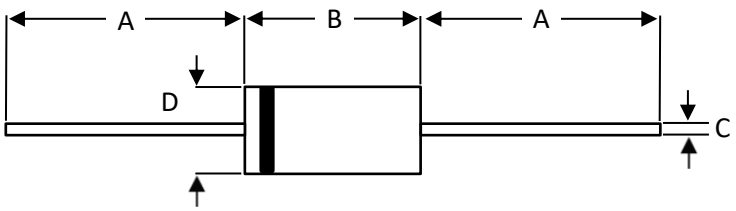
- Case:DO-15 package
- Case material: “green” molding compound
- UL flammability classification rating 94V-0
- Polarity : by cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Weight: 0.4grams

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

Applications

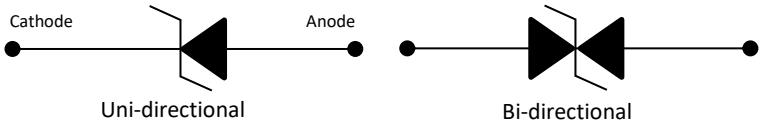
TVS devices are ideal for the protection of I/O Interfaces,Vcc bus and other vulnerable circuits used in telecom, computer, industrial and consumer electronic applications.

Package Outline Dimensions



DO-15 Package		
Dim	Min	Max
A	25.4	-
B	5.80	7.62
C	0.69	0.90
D	3.00	3.60
All Dimensions in mm		

Device Schematic



Ordering Information

- Package :DO-15
- Packing Option:Tape Box
- Quantity Per Box :3Kpcs
- Quantity Per Carton :30Kpcs

Maximum Ratings (@TA = +25°C, unless otherwise specified.)

Absolute Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25°C by 10/1000us Waveform (Note 1)	P_{PP}	600	W
Power Dissipation on Infinite Heat Sink at TL=75°C	$P_{M(AV)}$	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	I_{FSM}	80	A
Operating Temperature Range	T_j	-55 to +150	° C
Storage Temperature Range	T_{STG}	-55 to +150	° C

Note:

1. Non-repetitive current pulse, per Fig.4 and derated above Tj(initial) =25ºC per Fig.1
2. For unidirectional units only

Electrical Characteristics (@T_A = 25°C, unless otherwise specified.)

Part Number		Marking Code		Reverse Working Voltage V_{RWM}(V)	Reverse Breakdown Voltage V_B(V)			Reverse Leakage (Max) I_R(uA) @V_R	Reverse Clamping Voltage (Max) V_C(V) @I_{PP}	Peak Pulse Current (Max) I_{PP}(A)
Uni.	Bi.	Uni.	Bi.		Min.	Max.	@I_T(mA)			
P6KEG6.8A	P6KEG6.8CA	P6KE6.8A	P6KE6.8CA	5.8	6.45	7.14	10	150	10.5	57.2
P6KEG7.5A	P6KEG7.5CA	P6KE7.5A	P6KE7.5CA	6.4	7.13	7.88	10	100	11.3	53.1
P6KEG8.2A	P6KEG8.2CA	P6KE8.2A	P6KE8.2CA	7.0	7.79	8.61	10	50	12.1	49.6
P6KEG9.1A	P6KEG9.1CA	P6KE9.1A	P6KE9.1CA	7.8	8.65	9.55	1	20	13.4	44.8
P6KEG10A	P6KEG10CA	P6KE10A	P6KE10CA	8.6	9.5	10.5	1	10	14.5	41.4
P6KEG11A	P6KEG11CA	P6KE11A	P6KE11CA	9.4	10.5	11.6	1	5	15.6	38.5
P6KEG12A	P6KEG12CA	P6KE12A	P6KE12CA	10.2	11.4	12.6	1	2	16.7	36.0
P6KEG13A	P6KEG13CA	P6KE13A	P6KE13CA	11.1	12.4	13.7	1	1	18.2	33.0
P6KEG15A	P6KEG15CA	P6KE15A	P6KE15CA	13	14.3	15.8	1	1	21.2	28.3
P6KEG16A	P6KEG16CA	P6KE16A	P6KE16CA	14	15.2	16.8	1	1	22.5	26.7
P6KEG18A	P6KEG18CA	P6KE18A	P6KE18CA	15	17.1	18.9	1	1	25.2	23.8
P6KEG20A	P6KEG20CA	P6KE20A	P6KE20CA	17	19.0	21.0	1	1	27.7	21.7
P6KEG22A	P6KEG22CA	P6KE22A	P6KE22CA	19	20.9	23.1	1	1	30.6	19.7
P6KEG24A	P6KEG24CA	P6KE24A	P6KE24CA	21	22.8	25.2	1	1	33.2	18.1
P6KEG27A	P6KEG27CA	P6KE27A	P6KE27CA	23	25.7	28.4	1	1	37.5	16.0
P6KEG30A	P6KEG30CA	P6KE30A	P6KE30CA	26	28.5	31.5	1	1	41.4	14.5
P6KEG33A	P6KEG33CA	P6KE33A	P6KE33CA	28	31.4	34.7	1	1	45.7	13.2
P6KEG36A	P6KEG36CA	P6KE36A	P6KE36CA	31	34.2	37.8	1	1	49.9	12.1
P6KEG39A	P6KEG39CA	P6KE39A	P6KE39CA	33	37.1	41.0	1	1	53.9	11.2
P6KEG43A	P6KEG43CA	P6KE43A	P6KE43CA	37	40.9	45.2	1	1	59.3	10.2
P6KEG47A	P6KEG47CA	P6KE47A	P6KE47CA	40	44.7	49.4	1	1	64.8	9.3
P6KEG51A	P6KEG51CA	P6KE51A	P6KE51CA	44	48.5	53.6	1	1	70.1	8.6
P6KEG56A	P6KEG56CA	P6KE56A	P6KE56CA	48	53.2	58.8	1	1	77.0	7.8
P6KEG62A	P6KEG62CA	P6KE62A	P6KE62CA	53	58.9	65.1	1	1	85.0	7.1
P6KEG68A	P6KEG68CA	P6KE68A	P6KE68CA	58	64.6	71.4	1	1	92.0	6.6
P6KEG75A	P6KEG75CA	P6KE75A	P6KE75CA	64	71.3	78.8	1	1	103.0	5.9
P6KEG82A	P6KEG82CA	P6KE82A	P6KE82CA	70	77.9	86.1	1	1	113.0	5.4
P6KEG91A	P6KEG91CA	P6KE91A	P6KE91CA	78	86.5	95.5	1	1	125.0	4.8
P6KEG100A	P6KEG100CA	P6KE100A	P6KE100CA	86	95	105	1	1	137.0	4.4
P6KEG110A	P6KEG110CA	P6KE110A	P6KE110CA	94	105	116	1	1	152.0	2.6
P6KEG120A	P6KEG120CA	P6KE120A	P6KE120CA	102	114	126	1	1	165.0	3.7
P6KEG130A	P6KEG130CA	P6KE130A	P6KE130CA	111	124	137	1	1	179.0	3.4
P6KEG150A	P6KEG150CA	P6KE150A	P6KE150CA	128	143	158	1	1	207.0	2.9
P6KEG160A	P6KEG160CA	P6KE160A	P6KE160CA	136	152	168	1	1	219	2.8
P6KEG170A	P6KEG170CA	P6KE170A	P6KE170CA	145	162	179	1	1	234	2.6
P6KEG180A	P6KEG180CA	P6KE180A	P6KE180CA	154	171	189	1	1	246	2.5
P6KEG200A	P6KEG200CA	P6KE200A	P6KE200CA	171	190	210	1	1	274	2.2
P6KEG220A	P6KEG220CA	P6KE220A	P6KE220CA	185	209	231	1	1	328	1.9
P6KEG250A	P6KEG250CA	P6KE250A	P6KE250CA	214	237	263	1	1	344	1.8
P6KEG300A	P6KEG300CA	P6KE300A	P6KE300CA	256	285	315	1	1	414	1.5
P6KEG350A	P6KEG350CA	P6KE350A	P6KE350CA	300	332	368	1	1	482	1.3
P6KEG400A	P6KEG400CA	P6KE400A	P6KE400CA	342	380	420	1	1	548	1.1
P6KEG440A	P6KEG440CA	P6KE440A	P6KE440CA	376	418	462	1	1	602	1.0
P6KEG480A	P6KEG480CA	P6KE480A	P6KE480CA	408	456	504	1	1	658	0.9
P6KEG510A	P6KEG510CA	P6KE510A	P6KE510CA	434	485	535	1	1	698	0.9
P6KEG550A	P6KEG550CA	P6KE550A	P6KE550CA	460	513	567	1	1	740	0.8
P6KEG600A	P6KEG600CA	P6KE600A	P6KE600CA	512	570	630	1	1	828	0.75

Note:

1. Suffix "A" denotes 5% tolerance device.
2. Add suffix "CA" after part number to specify bi-directional devices.
3. The IR limit is double for bi-directional devices.

Rating and Characteristic Curves

FIG.1 - Peak Pulse Power Derating Curve

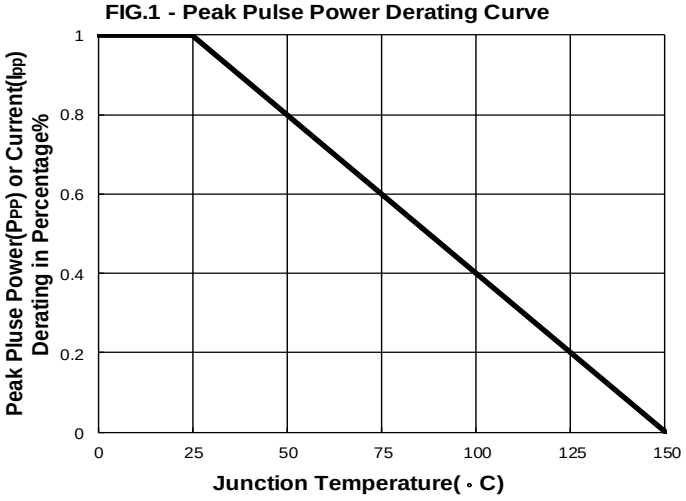


FIG.2 - Steady State Power Derating Curve

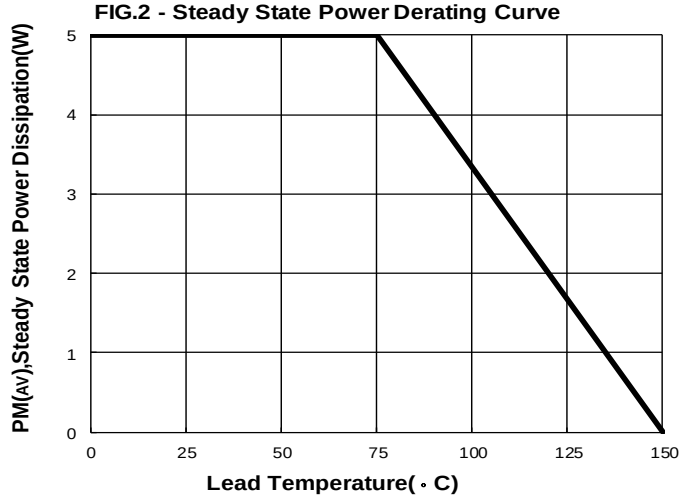


FIG.3 - Maximun Non-Repetitive Forward Surge Current Uni-Directional Only

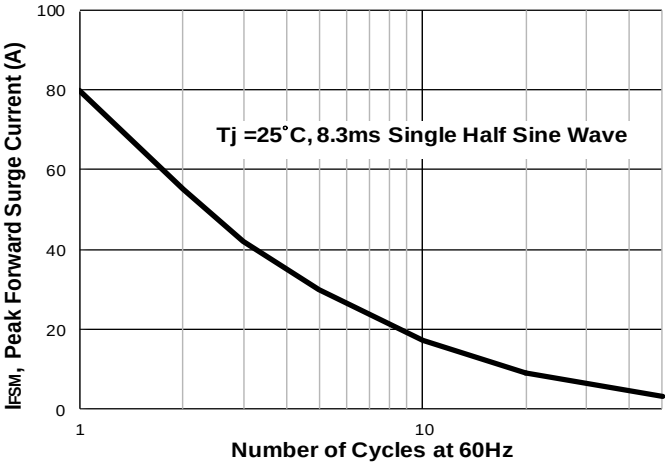


FIG.4 - Pulse Waveform

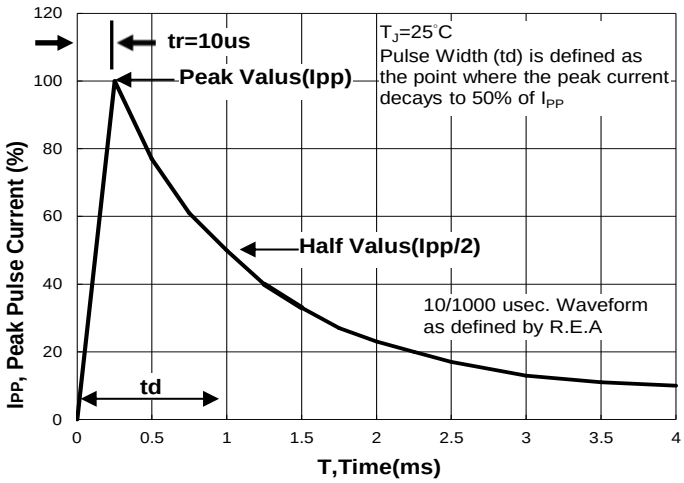


FIG.5 - Typical Junction Capacitance

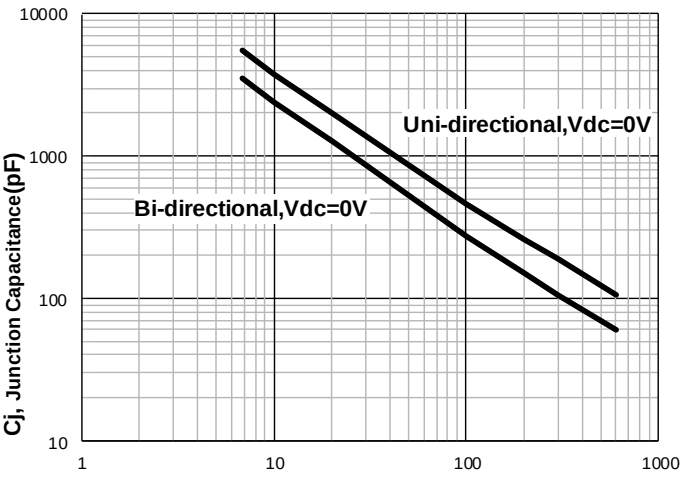
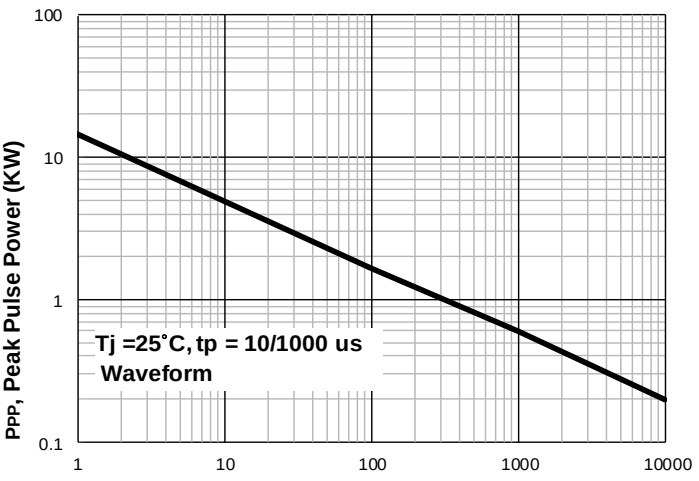


FIG.6 - Peak Pulse Power Rating Curve



The curve above is for reference only.

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