

**Axial Lead Transient Voltage Suppressors(TVS)**

**P<sub>PPM</sub> 12000W**

**V<sub>RWM</sub> 10V~250V**

**DESCRIPTION**

The 12KP series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

**FEATURES**

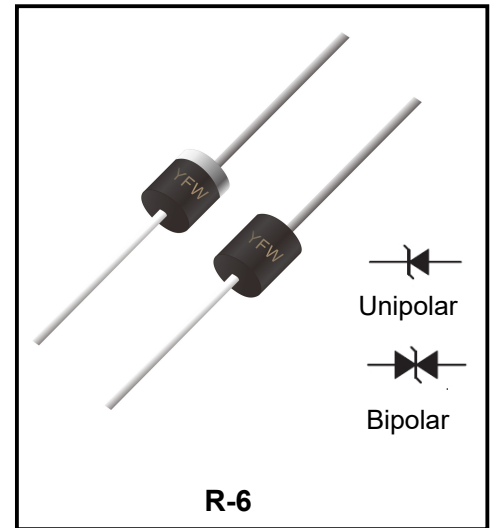
- ◆ Glass passivated chip junction in R6 Package
- ◆ Low leakage
- ◆ Uni and Bidirectional unit
- ◆ Excellent clamping capability
- ◆ 12000W Peak power capability at 10 × 1000μs waveform Repetition rate (duty cycle):0.01%
- ◆ Fast response time

**APPLICATIONS**

TVS devices are ideal for the protection of I/O interfaces, V<sub>CC</sub> bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

**MECHANICAL DATA**

- ◆ Case: R-6
- ◆ Approx. Weight: 2.05g / 0.072oz



**Maximum Ratings (T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation with a 10/1000μs waveform (Fig.1)(Note 1), (Note 2)	<b>P<sub>PPM</sub></b>	12000	<b>W</b>
Peak Pulse Current with a 10/1000μs waveform.(Note1, Fig.3)	<b>I<sub>PP</sub></b>	See Next Table	<b>A</b>
Power Dissipation on Infinite Heat Sink at T <sub>L</sub> =75°C	<b>P<sub>M(AV)</sub></b>	8.0	<b>W</b>
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	<b>I<sub>FSM</sub></b>	500	<b>A</b>
Operating junction and Storage Temperature Range.	<b>T<sub>J</sub>, T<sub>STG</sub></b>	-55 to +150	<b>°C</b>

## Electrical Characteristics (T<sub>A</sub>=25°C unless otherwise noted)

Part Number		Reverse Stand-Off Voltage V <sub>RWM</sub> (V)	Breakdown Voltage V <sub>BR</sub> (V) @I <sub>r</sub>		Test Current I <sub>r</sub> (mA)	Maximum Clamping Voltage V <sub>c</sub> (V) @I <sub>PP</sub>	Maximum Peak Pulse Current I <sub>PP</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> (μA) @V <sub>RWM</sub>
Uni	Bi		MIN	MAX				
12KP10A	12KP10CA	10	11.1	12.3	50	18.4	658.68	300
12KP12A	12KP12CA	12	13.3	14.7	50	20.6	588.36	300
12KP13A	12KP13CA	13	14.4	15.9	50	22.4	541.08	250
12KP14A	12KP14CA	14	15.6	17.2	50	24	504.96	50
12KP16A	12KP16CA	16	17.8	19.7	10	27.2	445.56	10
12KP17A	12KP17CA	17	18.9	20.9	5	27.6	439.08	5
12KP18A	12KP18CA	18	20	22.1	5	29.2	415.08	2
12KP20A	12KP20CA	20	22.2	24.5	5	32.4	374.04	1
12KP22A	12KP22CA	22	24.4	26.9	5	35.5	341.4	1
12KP24A	12KP24CA	24	26.7	29.5	5	38.9	311.52	1
12KP26A	12KP26CA	26	28.9	31.9	5	42.1	287.88	1
12KP28A	12KP28CA	28	31.1	34.4	5	45.4	267	1
12KP30A	12KP30CA	30	33.3	36.8	5	48.4	250.44	1
12KP33A	12KP33CA	33	36.7	40.6	5	53.3	227.4	1
12KP36A	12KP36CA	36	40	44.2	5	58.1	208.56	1
12KP40A	12KP40CA	40	44.4	49.1	5	64.5	187.92	1
12KP43A	12KP43CA	43	47.8	52.8	5	69.4	174.6	1
12KP45A	12KP45CA	45	50	55.3	5	72.7	166.68	1
12KP48A	12KP48CA	48	53.3	58.90	5	77.4	156.6	1
12KP51A	12KP51CA	51	56.7	62.7	5	82.4	147.12	1
12KP54A	12KP54CA	54	60	66.3	5	87.1	139.2	1
12KP58A	12KP58CA	58	64.4	71.2	5	93.6	129.48	1
12KP60A	12KP60CA	60	66.7	73.7	5	96.8	125.16	1
12KP64A	12KP64CA	64	71.1	78.6	5	103	117.72	1
12KP70A	12KP70CA	70	77.8	86	5	113	107.28	1
12KP75A	12KP75CA	75	83.3	92.1	5	121	100.2	1
12KP78A	12KP78CA	78	86.7	95.8	5	126	96.24	1
12KP85A	12KP85CA	85	94.4	104	5	137	88.44	1
12KP90A	12KP90CA	90	100	111	5	146	83.04	1
12KP100A	12KP100CA	100	111	123	5	162	74.76	1
12KP110A	12KP110CA	110	122	135	5	177	68.52	1
12KP120A	12KP120CA	120	133	147	5	193	62.76	1
12KP130A	12KP130CA	130	144	159	5	209	57.96	1
12KP150A	12KP150CA	150	167	185	5	243	49.92	1
12KP160A	12KP160CA	160	178	197	5	259	46.8	1
12KP170A	12KP170CA	170	189	209	5	275	44.04	1
12KP180A	12KP180CA	180	200	221	5	289	41.88	1
12KP190A	12KP190CA	190	211	233	5	310	39.12	1
12KP200A	12KP200CA	200	222	246	5	329.2	36.84	1
12KP210A	12KP210CA	210	233	258	5	349.5	34.68	1
12KP220A	12KP220CA	220	244	270	5	371.1	32.64	1
12KP240A	12KP240CA	240	267.4	293.9	5	386	31.32	1
12KP250A	12KP250CA	250	277	306	5	425	28.56	1

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

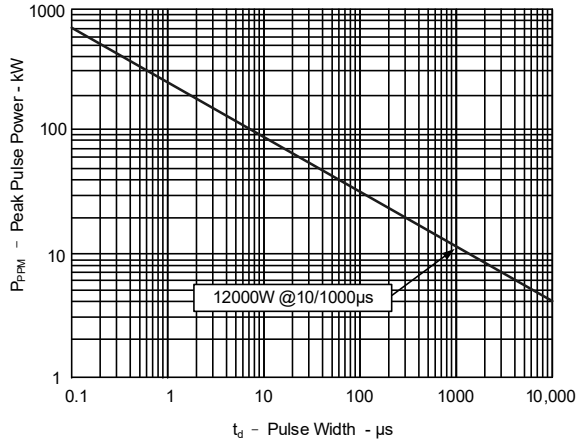


Figure 2. Pulse Derating Curve

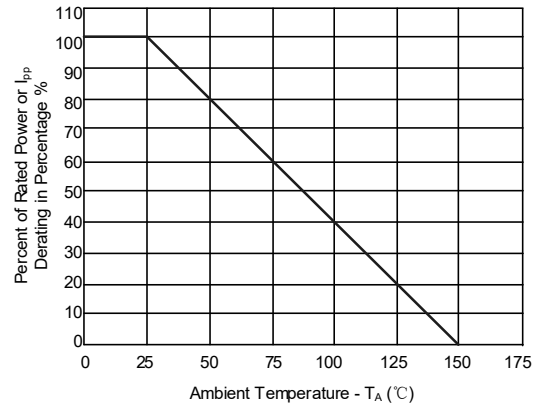


Figure 3. Pulse Waveform

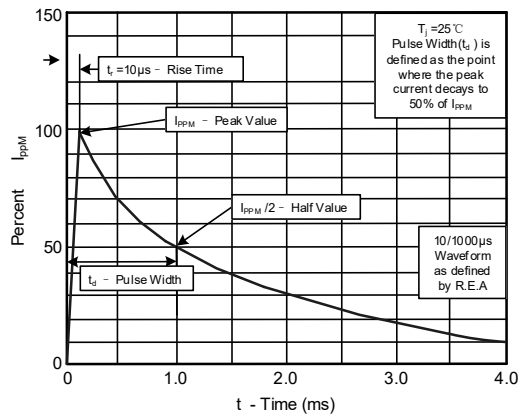
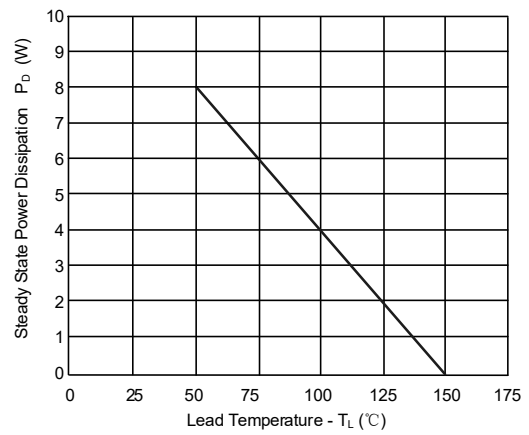


Figure 4. Steady State Power Dissipation Derating Curve



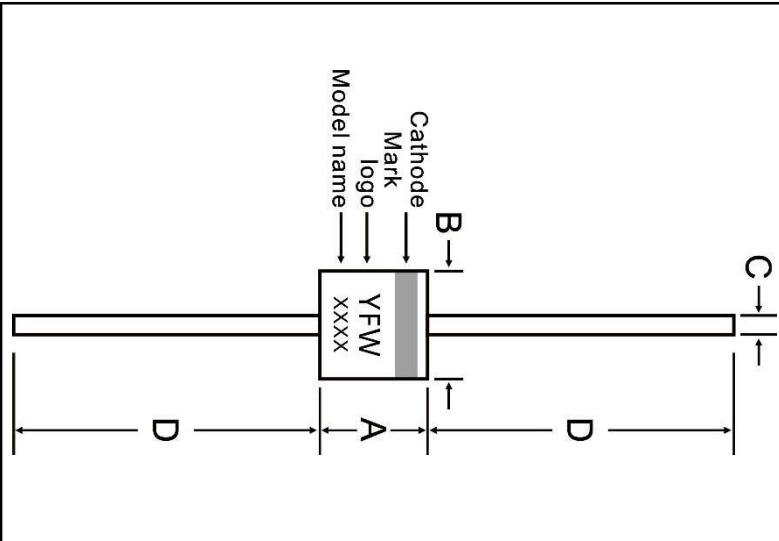
Ordering information

Package	Packing Description	Packing Quantity
R-6	bulk	100PCS/Inner Box 5000PCS/Carton
	ammo pack	500PCS/Box 5000PCS/Carton

Package Dimensions

R-6

Dim.	Millimeter(mm)		INCHES	
	Min.	Max.	Min.	Max.
A	8.60	9.10	0.340	0.360
B	8.60	9.10	0.340	0.360
C	1.20	1.30	0.048	0.052
D	25.40	-	1.00	-



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