

Glass Passivated Junction Transient Voltage Suppressor Rectifiers

Reverse Voltage 28 ~ 360 V

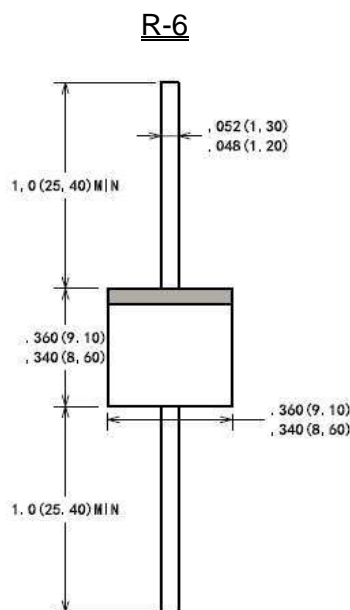
30000 Watt Peak Pulse Power

Features

- Glass passivated chip
- 30000 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

Mechanical Data

- Case:R-6 Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



Unit: inch (mm)

Maximum Ratings & Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform ⁽¹⁾	P_{PP}	30000	W
Peak pulse current with a 10/1000 us waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75\text{ }^\circ\text{C}$	P_D	8.0	W
Peak forward surge current, 8.3 ms single half sine wave	I_{FSM}	400	A
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	8.0	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	40	$^\circ\text{C/W}$

Note:

1) Non-repetitive current pulse per Fig.4 and derated above $T_A = 25\text{ }^\circ\text{C}$ per Fig.3 ;

2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

Electrical Characteristics (T_A=25 °C unless otherwise noted)Table 1

Part Number		Breakdown Voltage V _{BR@I_T}		Test Current I _T	Reverse Stand-off Voltage V _R	Max. Reverse Leakage I _{R@V_R}	Max. Peak Pulse Current I _{PPM}	Max. Clamping Voltage V _{C@I_{PPM}}
		Min	Max					
Uni	Bi	(V)		(mA)	(V)	(μA)	(A)	(V)
30KP28A	30KP28CA	31.28	34.41	50	28	5000	606.0	50.0
30KP30A	30KP30CA	33.51	36.86	50	30	5000	548.9	55.2
30KP33A	30KP33CA	36.90	40.59	50	33	5000	517.9	58.5
30KP36A	30KP36CA	40.20	44.22	50	36	5000	490.3	61.8
30KP39A	30KP39CA	43.60	47.96	20	39	2000	450.9	67.2
30KP42A	30KP42CA	46.90	51.59	10	42	1000	420.8	72.0
30KP43A	30KP43CA	48.00	52.80	10	43	1000	415.1	73.0
30KP45A	30KP45CA	50.30	55.33	5	45	250	391.5	77.4
30KP48A	30KP48CA	53.60	58.96	5	48	150	371.3	81.6
30KP51A	30KP51CA	57.00	62.70	5	51	50	350.7	86.4
30KP54A	30KP54CA	60.30	66.33	5	54	20	331.5	91.4
30KP58A	30KP58CA	64.80	71.28	5	58	20	327.9	92.4
30KP60A	30KP60CA	67.00	73.70	5	60	15	297.1	102.0
30KP64A	30KP64CA	71.50	78.65	5	64	10	291.3	104.0
30KP66A	30KP66CA	73.70	81.07	5	66	2	283.2	107.0
30KP70A	30KP70CA	78.20	86.02	5	70	2	278.0	109.0
30KP71A	30KP71CA	79.30	87.23	5	71	2	271.7	111.5
30KP72A	30KP72CA	80.40	88.44	5	72	2	265.8	114.0
30KP75A	30KP75CA	83.80	92.18	5	75	2	253.8	119.4
30KP78A	30KP78CA	87.10	95.81	5	78	2	234.9	129.0
30KP84A	30KP84CA	93.80	103.18	5	84	2	217.7	139.2
30KP90A	30KP90CA	100.50	110.55	5	90	2	207.0	146.4
30KP96A	30KP96CA	107.20	117.92	5	96	2	194.2	156.0
30KP102A	30KP102CA	113.90	125.29	5	102	2	183.0	165.6
30KP108A	30KP108CA	120.60	132.66	5	108	2	172.9	175.2
30KP120A	30KP120CA	134.00	147.40	5	120	2	155.9	194.4
30KP132A	30KP132CA	147.40	162.14	5	132	2	142.3	213.0
30KP144A	30KP144CA	160.80	176.88	5	144	2	135.8	223.2
30KP150A	30KP150CA	167.60	184.36	5	150	2	129.8	233.4
30KP156A	30KP156CA	174.30	191.73	5	156	2	123.7	245.0
30KP160A	30KP160CA	178.70	196.57	5	160	2	120.0	252.6
30KP168A	30KP168CA	187.70	206.47	5	168	2	111.2	272.4

Part Number		Breakdown Voltage $V_{BR@I_T}$		Test Current I_T	Reverse Stand-off Voltage V_R	Max. Reverse Leakage $I_R@V_R$	Max. Peak Pulse Current I_{PPM}	Max. Clamping Voltage $V_C@I_{PPM}$
		Min	Max					
Uni	Bi	(V)		(mA)	(V)	(μ A)	(A)	(V)
30KP170A	30KP170CA	189.90	208.89	5	170	2	110.2	275.0
30KP180A	30KP180CA	201.10	221.21	5	180	2	104.3	290.4
30KP198A	30KP198CA	221.20	243.32	5	198	2	94.7	319.8
30KP216A	30KP216CA	241.30	265.43	5	216	2	86.9	348.6
30KP240A	30KP240CA	268.10	294.91	5	240	2	78.3	387.0
30KP258A	30KP258CA	288.20	317.02	5	258	2	72.8	416.4
30KP260A	30KP260CA	290.40	319.44	5	260	2	72.8	416.0
30KP270A	30KP270CA	301.60	331.76	5	270	2	69.5	436.2
30KP280A	30KP280CA	312.80	344.08	5	280	2	65.3	464.0
30KP288A	30KP288CA	321.70	353.87	5	288	2	64.5	469.9
30KP300A	30KP300CA	334.00	367.40	5	300	2	62.0	484.0
30KP320A	30KP320CA	357.40	391.40	5	320	2	57.2	530.0
30KP350A	30KP350CA	391.00	428.10	5	350	2	53.4	567.0
30KP360A	30KP360CA	402.10	440.30	5	360	2	47.3	640.0

Ratings and Characteristics Curves (TA=25°C unless otherwise noted)

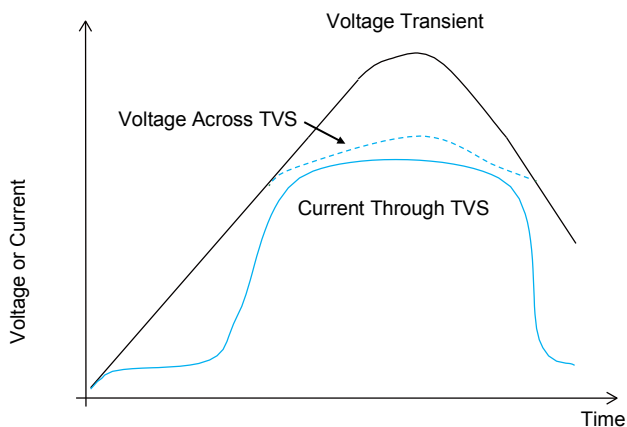


FIGURE 1
TVS Transients Clamping Waveform

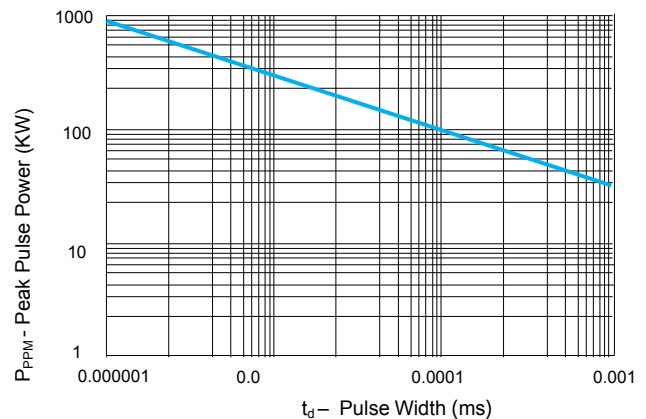


FIGURE 2
Peak Pulse Power Rating Curve

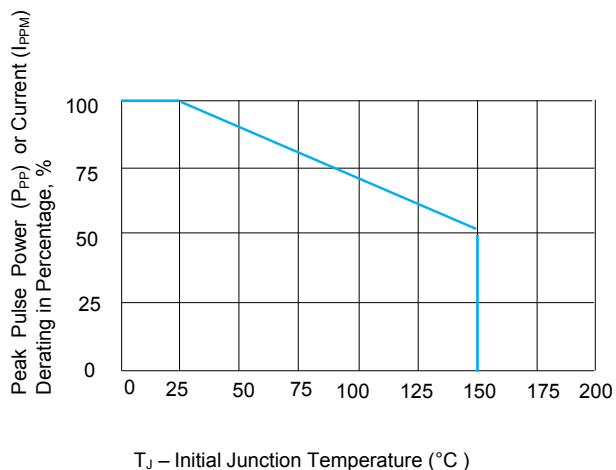


FIGURE 3
Peak Pulse Power Derating Curve

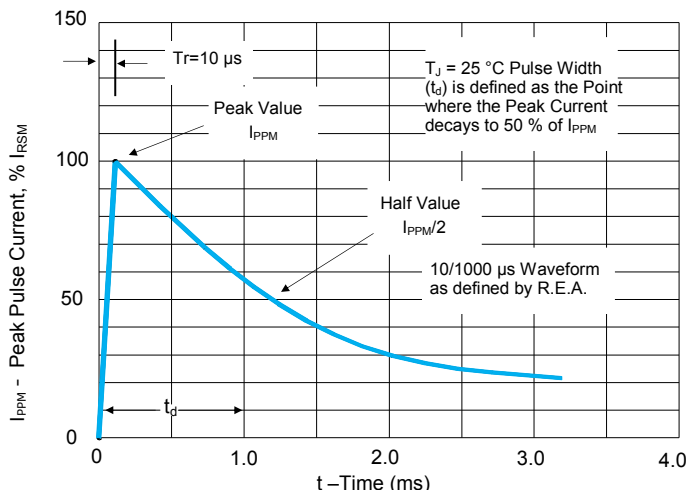


FIGURE 4
Pulse Waveform

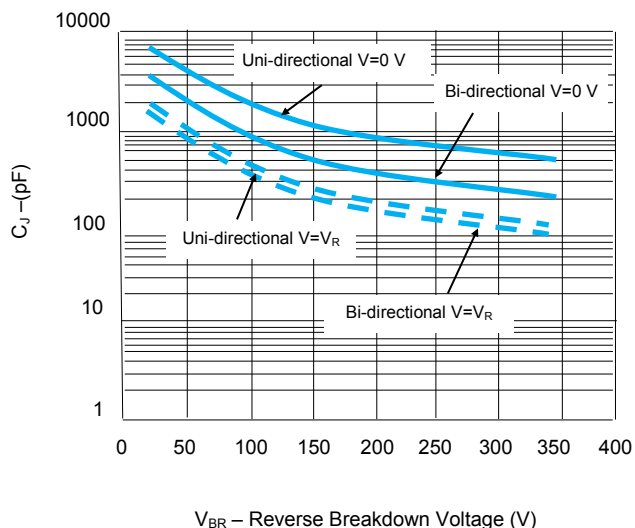


FIGURE 5 Typical Junction Capacitance

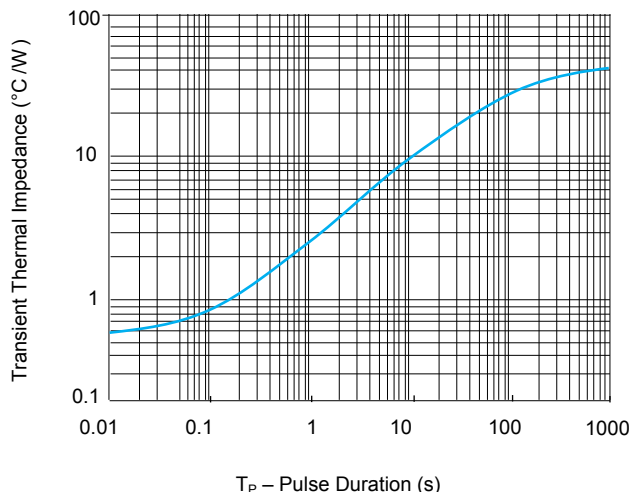


FIGURE 6 Typical Transient Thermal Impedance

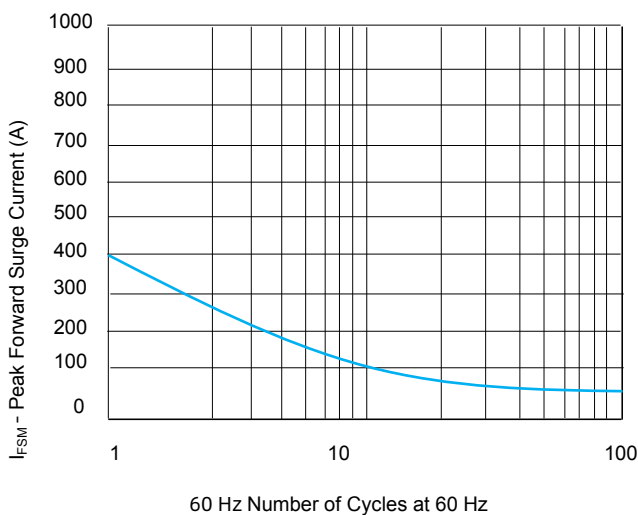


FIGURE 7 Maximum Non-Repetitive Forward Surge Current Uni-Directional only

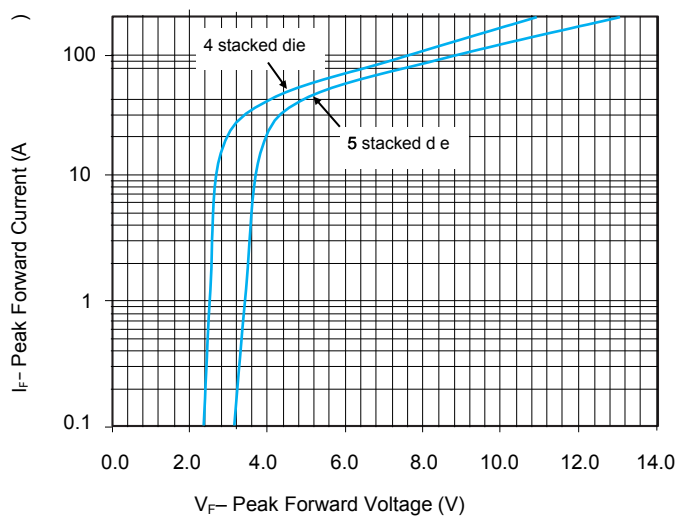


FIGURE 8
Peak Forward Drop vs Peak Forward Current (Typical Values)