30KPA Series

30000W Leaded Type Transient Voltage Suppressors
VOLTAGE : 28 TO 288Volts

Features

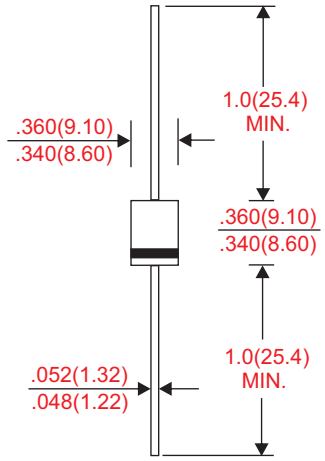
- Axial lead type devices for through hole design.
- 30000W peak pulse power capability with a 10/1000ìS waveform, repetition rate (duty cycle): 0.05%.
- Excellent clamping capability.
- Low incremental surge resistance.
- Suffix "G" indicates Halogen-free part, ex.30KPA28(C)AG.
- Ultra high-speed switching.
- Glass passivated chip junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, R-6 / P600
- Lead : Axial leads, solderable per MIL-STD-202, Method 208 guaranteed
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight : Approximated 2.10 gram

Outline

R-6(P600)



Dimensions in inches and (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%.

Parameter	Conditions	Symbol	30KPA series	UNIT
Peak power dissipation	with a 10/1000us waveform, note 1& fig.1	P_{PPM}	30000	W
Peak forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC method), note 3	I_{FSM}	400	A
Steady state power dissipation	at 75°C, lead length 0.375"(9.5mm), note 2	$P_{M(AV)}$	8.0	W
Peak pulse current	with a 10/1000us waveform, note 1& fig.1	I_{PPM}	See Table 1	A
Operating temperature		T_J	-55 ~ +150	°C
Storage temperature		T_{STG}	-65 ~ +150	°C

http://www.citcorp.com.tw/
TEL:886-3-6565228
FAX:886-3-6565091

Document ID : DS-21T17
Issued Date : 2010/05/05
Revised Date : 2010/10/08
Revision : B

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ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Table 1

Part No.	Absolute Maximum Rating(T_A = 25°C)				Electricity Characteristics(T_A = 25°C)		
	V_{RWM}	$V_{BR\ Min}$	I_T	I_{FSM}	Max. V_C@I_{PPM}		Max. I_R@V_{RWM}
	Volts	Volts	mA	(A)@8.3mS	Volts	I_{PP}(A)	uA
30KPA28(C)A	28	31.28	50	400	50.0	606.0	5000
30KPA30(C)A	30	33.51	50	400	55.2	548.9	5000
30KPA33(C)A	33	36.9	50	400	58.5	517.9	5000
30KPA36(C)A	36	40.2	50	400	61.8	490.3	5000
30KPA39(C)A	39	43.6	20	400	67.2	450.9	2000
30KPA42(C)A	42	46.9	10	400	72.0	420.8	1000
30KPA43(C)A	43	48.0	10	400	73.0	415.1	1000
30KPA45(C)A	45	50.3	5.0	400	77.4	391.5	250
30KPA48(C)A	48	53.6	5.0	400	81.6	371.3	150
30KPA51(C)A	51	57.0	5.0	400	86.4	350.7	50
30KPA54(C)A	54	60.3	5.0	400	91.4	331.5	20
30KPA58(C)A	58	64.8	5.0	400	92.4	327.9	20
30KPA60(C)A	60	67.0	5.0	400	102.0	297.1	15
30KPA64(C)A	64	71.5	5.0	400	104.0	291.3	10
30KPA66(C)A	66	73.7	5.0	400	107.0	283.2	2
30KPA70(C)A	70	78.2	5.0	400	109.0	278.0	2
30KPA71(C)A	71	79.3	5.0	400	111.5	271.7	2
30KPA72(C)A	72	80.4	5.0	400	114.0	265.8	2
30KPA75(C)A	75	83.8	5.0	400	119.4	253.8	2
30KPA78(C)A	78	87.1	5.0	400	129.0	234.9	2
30KPA84(C)A	84	93.8	5.0	400	139.2	217.7	2
30KPA90(C)A	90	100.5	5.0	400	146.4	207.0	2
30KPA96(C)A	96	107.2	5.0	400	156.0	194.2	2
30KPA102(C)A	102	113.9	5.0	400	165.6	183.0	2
30KPA108(C)A	108	120.6	5.0	400	175.2	172.9	2
30KPA120(C)A	120	134.0	5.0	400	194.4	155.9	2
30KPA132(C)A	132	147.4	5.0	400	213.0	142.3	2
30KPA144(C)A	144	160.8	5.0	400	223.2	135.8	2
30KPA150(C)A	150	167.6	5.0	400	233.4	129.8	2
30KPA156(C)A	156	174.3	5.0	400	245.0	123.7	2
30KPA160(C)A	160	178.7	5.0	400	252.6	120.0	2
30KPA168(C)A	168	187.7	5.0	400	272.4	111.2	2
30KPA170(C)A	170	189.9	5.0	400	275.0	110.2	2
30KPA180(C)A	180	201.1	5.0	400	290.4	104.3	2
30KPA198(C)A	198	221.2	5.0	400	319.8	94.7	2
30KPA216(C)A	216	241.3	5.0	400	348.6	86.9	2
30KPA240(C)A	240	268.1	5.0	400	387.0	78.3	2

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	V_{RWM}	$V_{BR\ Min}$	I_T	I_{FSM}	Max. V_C@I_{PPM}		Max. I_R@V_{RWM}
	Volts	Volts	mA	(A)@8.3mS	Volts	I_{PP}(A)	uA
30KPA258(C)A	258	288.2	5.0	400	416.4	72.8	2
30KPA260(C)A	260	290.4	5.0	400	416.0	72.8	2
30KPA270(C)A	270	301.6	5.0	400	436.2	69.5	2
30KPA280(C)A	280	312.8	5.0	400	464.0	65.3	2
30KPA288(C)A	288	321.7	5.0	400	469.9	64.5	2

Note 1. V_{BR} measured after I_T applied for 300uS, I_T=square wave pulse or equivalent
2. Surge current waveform per Fig. 3 and derated per Fig. 2
3. For bi-directional types having V_{RWM} of 10 volts and less, the I_D limit is doubled
4. Suffix 'C' denotes bi-directional devices. Suffix 'A' denotes 5% tolerance devices, no suffix denotes 10% tolerance devices.
5. All terms and symbols are consistent with ANS/IEEE C62.35

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Rating and characteristic curves

Fig.1 - PEALK PULSE POWER RATING CURVE

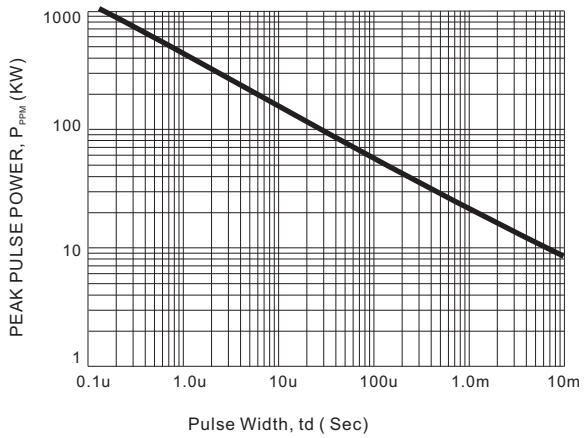

Fig.2 - PULSE DERATING CURVE

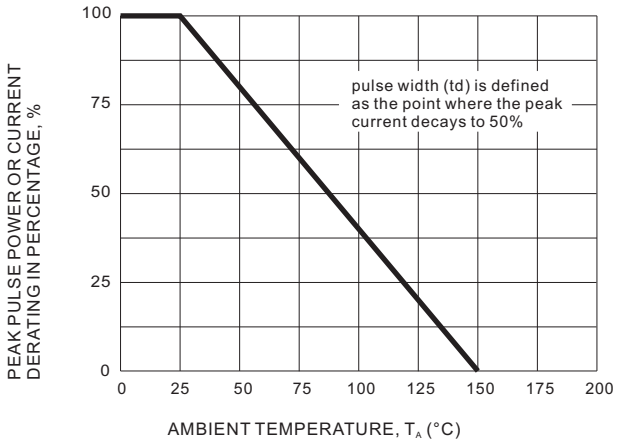

Fig.3 - PULSE WAVEFORM

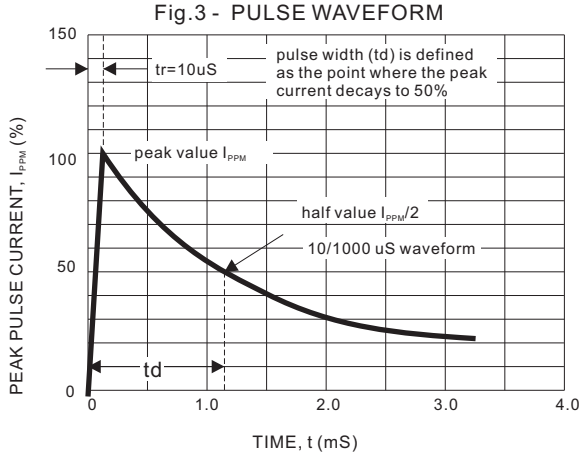

Fig.4 - TYPICAL JUNCTION CAPACITANCE

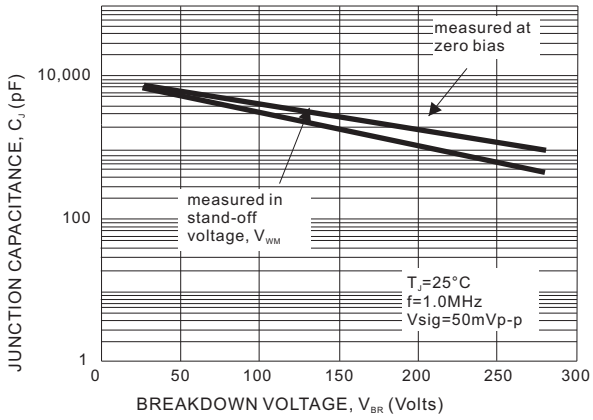

Fig.5 - STEADY STATE POWER DERATING CURVE

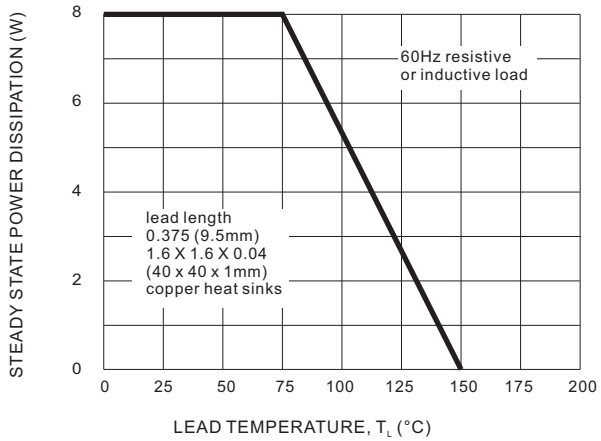

Fig.6 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT