

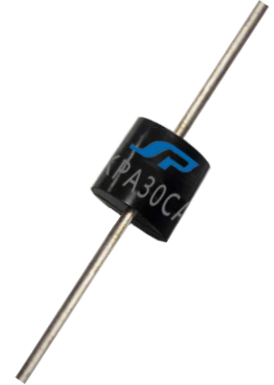
Glass Passivated Junction Transient Voltage Suppressor

Stand-Off Voltage - 28 to 288 Volts

30000 Watt Peak Pulse Power

Features

- Plastic package
- Glass passivated chip junction
- 30000W Peak Pulse Power capability on 10/1000 μ s waveform
- Excellent clamping capability
- Repetition rate (duty cycle):0.05%
- Low incremental surge resistance
- Fast response time: typically less than 1.0ps from 0 Volts to B_V min.
- High temperature soldering guaranteed: 265°C/10 seconds/.375", (9.5mm) lead length, 5lbs., (2.3kg) tension
- Pb-free plated



Mechanical Data

- **Case:** Molded plastic over glass passivated junction
- **Terminals:** Solderable per MIL-STD-750, Method 2026
- **Polarity:** Color band denotes positive end (cathode) except Bipolar
- **Mounting Position:** Any
- **Weight:** 0.07 ounce, 2.3 grams

Devices For Bipolar Application

- For Bidirectional use C or CA Suffix for types 30KPA30 thru types 30KPA288 (e.g. 30KPA30C , 30KPA288CA)
- Electrical characteristics apply in both directions

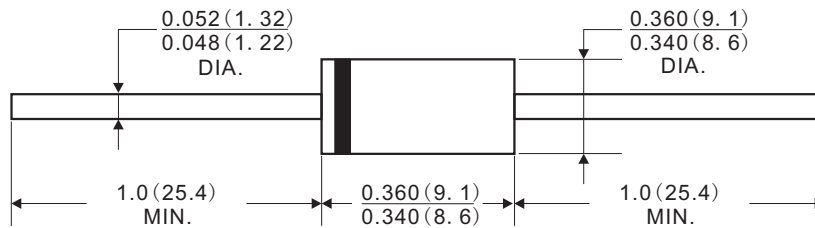
Maximum Ratings And Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform	P_{PPM}	Minimum 30000	Watts
Peak Pulse Current of on 10/1000 μ s waveform	I_{PPM}	SEE TABLE 1	Amps
Steady State Power Dissipation at $T_L = 75^\circ\text{C}$, Lead lengths. .375", (9.5mm)	$P_{M(AV)}$	8	Watts
Peak Forward Surge Current, 1/20 second / 25°C (JEDEC Method)	I_{FSM}	400	Amps
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C

Dimensions

Case Style P600



Dimensions in inches and (millimeters)

Electrical Characteristics

TABLE 1

***Stand for commonly used models

30KPA Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @IT	Breakdown Voltage @IT	Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @VRWM
UNI-Polar	BI-Polar	VRWM(V)	VBR(V)Min.	VBR(V)Max.	IT(mA)	Vc(V)	Ipp(A)	IR(μA)
30KPA28A	30KPA28CA	28	31.1	34.4	50	50.0	606.0	5000
30KPA30A	30KPA30CA	30	33.3	36.8	50	55.2	548.9	5000
30KPA33A	30KPA33CA	33	36.7	40.6	50	58.5	517.9	5000
30KPA36A	30KPA36CA	36	40.0	44.4	50	61.8	490.3	5000
30KPA39A	30KPA39CA	39	43.5	47.7	20	67.2	450.9	2000
30KPA42A	30KPA42CA	42	46.8	51.4	10	72.0	420.8	1000
30KPA43A	30KPA43CA	43	47.8	52.8	10	73.0	415.1	1000
30KPA45A	30KPA45CA	45	50.0	55.3	5	77.4	391.5	250
30KPA48A	* 30KPA48CA	48	53.2	58.8	5	81.6	371.3	150
30KPA51A	30KPA51CA	51	56.7	62.7	5	86.4	350.7	50
30KPA54A	30KPA54CA	54	60.0	66.6	5	91.4	331.5	20
30KPA58A	30KPA58CA	58	64.4	71.2	5	92.4	327.9	20
30KPA60A	30KPA60CA	60	66.6	73.8	5	102.0	297.1	15
30KPA64A	30KPA64CA	64	71.1	78.6	5	104.0	291.3	10
30KPA66A	30KPA66CA	66	73.2	81.0	5	107.0	283.2	2
30KPA70A	30KPA70CA	70	77.8	86.0	5	109.0	278.0	2
30KPA71A	30KPA71CA	71	79.2	86.8	5	111.5	271.7	2
30KPA72A	30KPA72CA	72	79.8	88.2	5	114.0	265.8	2
30KPA75A	30KPA75CA	75	83.5	92.2	5	119.4	253.8	2
30KPA78A	30KPA78CA	78	86.4	95.4	5	129.0	234.9	2
30KPA84A	30KPA84CA	84	93.6	103.2	5	139.2	217.7	2
30KPA90A	30KPA90CA	90	100.2	111.0	5	146.4	207.0	2

Notes :

1. For bidirectional type having VRWM of 10 volts and less, the IR limit is double
2. For parts with A, the VBR is ± 5%

Electrical Characteristics

TABLE 1

***Stand for commonly used models

30KPA Part Number		Reverse Stand-Off Voltage	Breakdown Voltage @IT	Breakdown Voltage @IT	Test Current	Maximum Clamping Voltage @Ipp	Peak Pulse Current	Reverse Leakage @VRWM
UNI-Polar	BI-Polar	VRWM(V)	VBR(V)Min.	VBR(V)Max.	IT(mA)	Vc(V)	Ipp(A)	IR(μA)
30KPA96A	30KPA96CA	96	106.8	118.2	5	156.0	194.2	2
30KPA102A	30KPA102CA	102	113.4	125.4	5	165.6	183.0	2
30KPA108A	30KPA108CA	108	120.0	132.6	5	175.2	172.9	2
30KPA120A	30KPA120CA	120	133.2	147.0	5	194.4	155.9	2
30KPA132A	30KPA132CA	132	146.4	161.4	5	213.0	142.3	2
30KPA144A	30KPA144CA	144	160.2	177.0	5	223.2	135.8	2
30KPA150A	30KPA150CA	150	167.0	185.0	5	233.4	129.8	2
30KPA156A	30KPA156CA	156	173.4	191.4	5	245.0	123.7	2
30KPA160A	30KPA160CA	160	178.0	197.0	5	252.6	120.0	2
30KPA168A	30KPA168CA	168	186.6	206.4	5	272.4	111.2	2
30KPA170A	30KPA170CA	170	189.0	209.0	5	275.0	110.2	2
30KPA180A	30KPA180CA	180	199.8	220.8	5	290.4	104.3	2
30KPA198A	30KPA198CA	198	220.2	243.6	5	319.8	94.7	2
30KPA216A	30KPA216CA	216	240.0	265.2	5	348.6	86.9	2
30KPA240A	30KPA240CA	240	266.4	294.6	5	387.0	78.3	2
30KPA258A	30KPA258CA	258	286.8	316.8	5	416.4	72.8	2
30KPA260A	30KPA260CA	260	290.2	317.8	5	416.0	72.8	2
30KPA270A	30KPA270CA	270	300.0	331.8	5	436.2	69.5	2
30KPA280A	30KPA280CA	280	312.6	342.2	5	464.0	65.3	2
30KPA288A	30KPA288CA	288	319.8	353.4	5	469.9	64.5	2

Notes :

1. For bidirectional type having VRWM of 10 volts and less, the IR limit is double
2. For parts with A , the VBR is ± 5%

Rating And Characteristic Curves

Fig.1 Peak Pulse Power Rating Curve

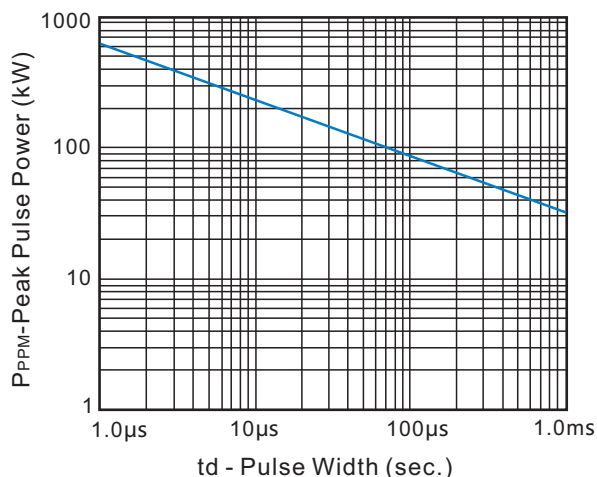
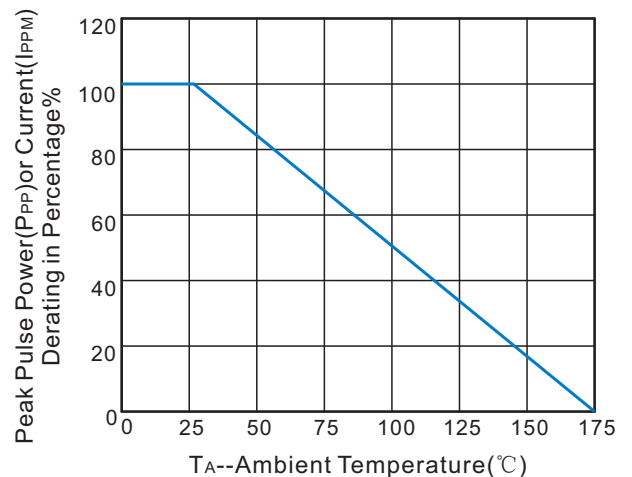


Fig.2 Pulse Derating Curve



Rating And Characteristic Curves

Fig.3 Pulse Waverform

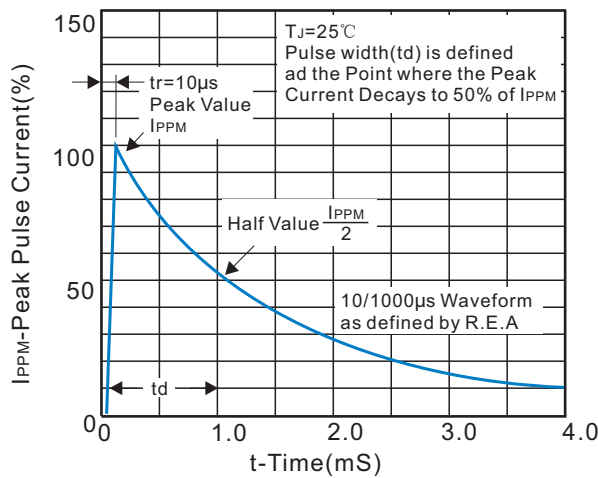


Fig.4 Typical Junction Capacitance

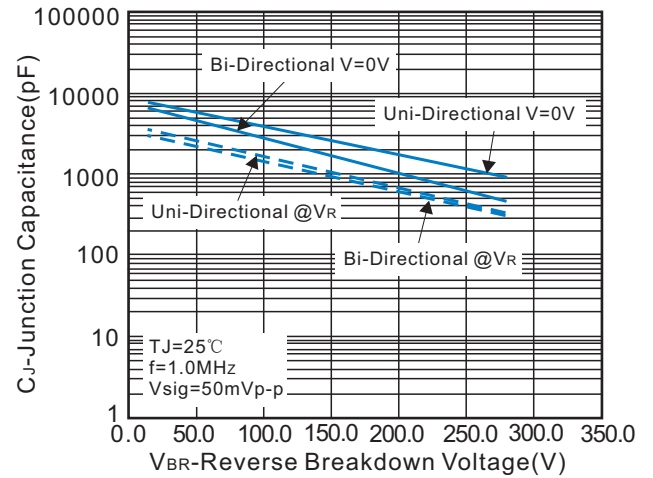


Fig.5 Steady State Power Dissipation Derating Curve

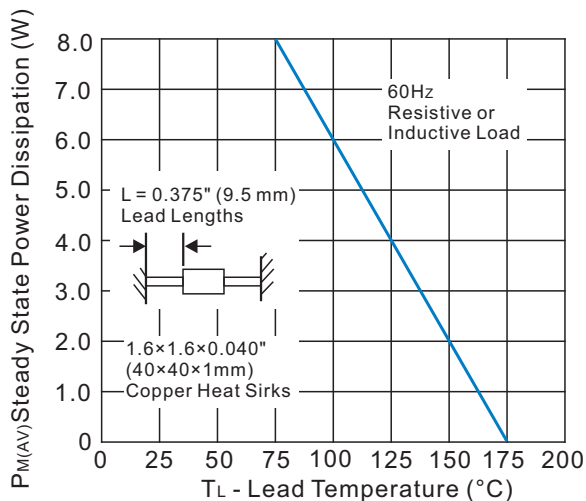
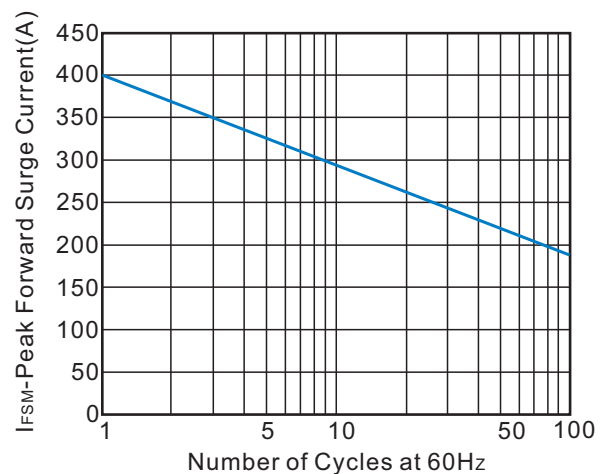


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current

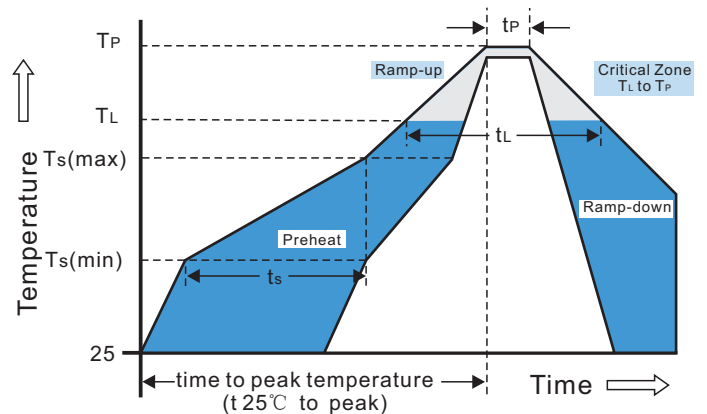


Recommended Soldering Conditions

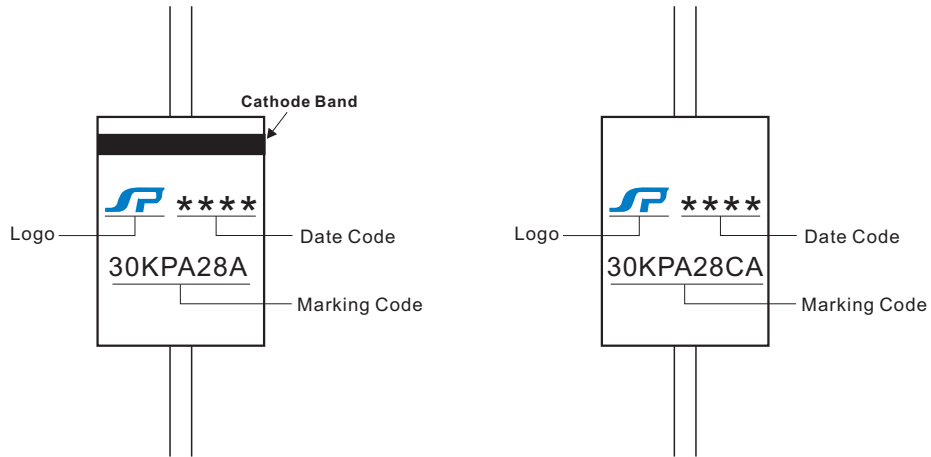
Recommended Conditions

Reflow Condition		Pb-Free assembly (see Fig.1)
Pre Heat	-Temperature Min($T_{s(min)}$)	+150 $^\circ\text{C}$
	-Temperature Max($T_{s(max)}$)	+200 $^\circ\text{C}$
	-Time(Min to Max)(t_s)	60-180secs
Average ramp up rate (Liquidus Temp(T_L) to peak)		3 $^\circ\text{C}/\text{sec. Max.}$
$T_{s(max)}$ to T_L -Ramp-up Rate		3 $^\circ\text{C}/\text{sec. Max.}$
Reflow	-Temperature(T_L)(Liquidus)	+217 $^\circ\text{C}$
	-Temperature(t_L)	60-150secs
Peak Temp(T_P)		+260(+0/-5) $^\circ\text{C}$
Time within 5 $^\circ\text{C}$ of actual Peak Temp(t_P)		30 secs. Max.
Ramp-down Rate		6 $^\circ\text{C}/\text{sec. Max.}$
Time 25 $^\circ\text{C}$ to Peak Temp(T_P)		8 min. Max.
Do not exceed		+260 $^\circ\text{C}$

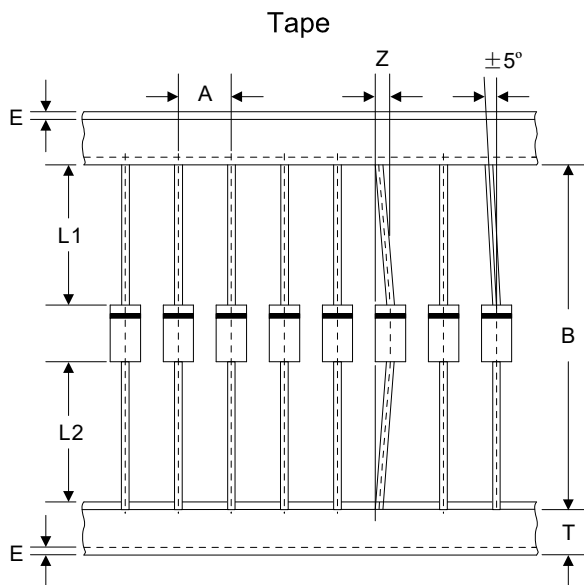
Reflow Soldering



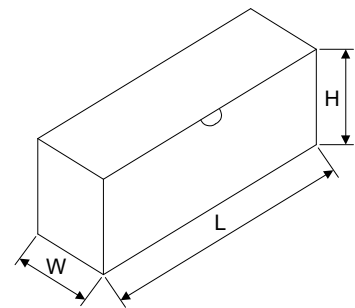
Marking Code



Packaging



Box



Dimensions in millimeters

A	B	Z	T	E	L1-L2
10.0±0.5	52.0±1.0	1.2Max	6.0±0.4	1.0Max	1.0Max

L	W	H	Quantity
250.0±5.0	78.0±5.0	114.0±5.0	300PCS