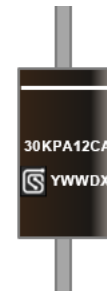


Features

- 30000W peak pulse power capability at 10/1000μs waveform, repetition rate (duty cycles):0.01%
- Excellent clamping capability
- Typical failure mode is a short circuit condition for current events exceeding component rating
- Plastic package is flammability rated V-0 per UL-94
- IEC61000-4-2 +/-30kV both contact and air
- IEC61000-4-4 50A(5/50ns)

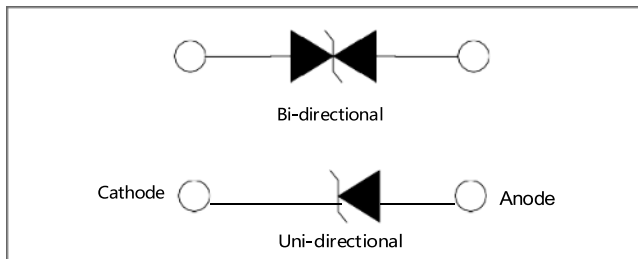
RoHS
Compliant



Applications

TVS devices are ideal for the transient voltage clamp protection of I/O Interfaces, DC power line bus and other circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

Function Diagram



Maximum Ratings and Thermal Characteristics (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T _A =25°C by 10/1000μs Waveform (Fig.3)	P _{PPM}	30000	W
Power Dissipation on Infinite Heat Sink at T _L =50°C	P _D	8	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 1)	I _{FSM}	400	A
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Only(Note 2)	V _F	3.5/5	V
Operating Temperature Range	T _J	-55 to 175	°C
Storage Temperature Range	T _{STG}	-55 to 175	°C

AGENCY	AGENCY FILE NUMBER
	Pending

Notes:

1. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.
2. 3.5V for single die, 5V for stack die

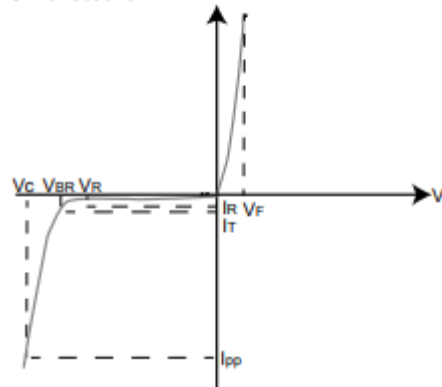
Characteristics (T = 25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage V _R (Volts)	Breakdown Voltage V _{BR} (Volts) @ I _T		Test Current I _T (mA)	Maximum Clamping Voltage V _C @ I _{nn} (V)	Maximum Peak Pulse Current I _{pp} (A)	Maximum Reverse Leakage I _R @ V _R (μA)	Agency Approval 
			MIN	MAX					
30KPA28A	30KPA28CA	28	31.28	34.41	50	50.0	606.0	5000	
30KPA30A	30KPA30CA	30	33.51	36.86	50	55.2	548.9	5000	
30KPA33A	30KPA33CA	33	36.90	40.59	50	58.5	517.9	5000	
30KPA36A	30KPA36CA	36	40.20	44.22	50	61.8	490.3	5000	
30KPA39A	30KPA39CA	39	43.60	47.96	20	67.2	450.9	2000	
30KPA42A	30KPA42CA	42	46.90	51.59	10	72.0	420.8	1000	
30KPA43A	30KPA43CA	43	48.00	52.80	10	73.0	415.1	1000	
30KPA45A	30KPA45CA	45	50.30	55.33	5	77.4	391.5	250	
30KPA48A	30KPA48CA	48	53.60	58.96	5	81.6	371.3	150	
30KPA51A	30KPA51CA	51	57.00	62.70	5	86.4	350.7	50	
30KPA54A	30KPA54CA	54	60.30	66.33	5	91.4	331.5	20	
30KPA58A	30KPA58CA	58	64.80	71.28	5	92.4	327.9	20	
30KPA60A	30KPA60CA	60	67.00	73.70	5	102.0	297.1	15	
30KPA64A	30KPA64CA	64	71.50	78.65	5	104.0	291.3	10	
30KPA66A	30KPA66CA	66	73.70	81.07	5	107.0	283.2	2	
30KPA70A	30KPA70CA	70	78.20	86.02	5	109.0	278.0	2	
30KPA71A	30KPA71CA	71	79.30	87.23	5	111.5	271.7	2	
30KPA72A	30KPA72CA	72	80.40	88.44	5	114.0	265.8	2	
30KPA75A	30KPA75CA	75	83.80	92.18	5	119.4	253.8	2	
30KPA78A	30KPA78CA	78	87.10	95.81	5	129.0	234.9	2	
30KPA84A	30KPA84CA	84	93.80	103.18	5	139.2	217.7	2	
30KPA90A	30KPA90CA	90	100.50	110.55	5	146.4	207.0	2	
30KPA96A	30KPA96CA	96	107.20	117.92	5	156.0	194.2	2	
30KPA102A	30KPA102CA	102	113.90	125.29	5	165.6	183.0	2	
30KPA108A	30KPA108CA	108	120.60	132.66	5	175.2	172.9	2	
30KPA120A	30KPA120CA	120	134.00	147.40	5	194.4	155.9	2	
30KPA132A	30KPA132CA	132	147.40	162.14	5	213.0	142.3	2	
30KPA144A	30KPA144CA	144	160.80	176.88	5	223.2	135.8	2	
30KPA150A	30KPA150CA	150	167.60	184.36	5	233.4	129.8	2	
30KPA156A	30KPA156CA	156	174.30	191.73	5	245.0	123.7	2	
30KPA160A	30KPA160CA	160	178.70	196.57	5	252.6	120.0	2	
30KPA168A	30KPA168CA	168	187.70	206.47	5	272.4	111.2	2	
30KPA170A	30KPA170CA	170	189.90	208.89	5	275.0	110.2	2	
30KPA180A	30KPA180CA	180	201.10	221.21	5	290.4	104.3	2	
30KPA198A	30KPA198CA	198	221.20	243.32	5	319.8	94.7	2	
30KPA216A	30KPA216CA	216	241.30	265.43	5	348.6	86.9	2	
30KPA240A	30KPA240CA	240	268.10	294.91	5	387.0	78.3	2	
30KPA258A	30KPA258CA	258	288.20	317.02	5	416.4	72.8	2	
30KPA260A	30KPA260CA	260	290.40	319.44	5	416.0	72.8	2	
30KPA270A	30KPA270CA	270	301.60	331.76	5	436.2	69.5	2	
30KPA280A	30KPA280CA	280	312.80	344.08	5	464.0	65.3	2	
30KPA288A	30KPA288CA	288	321.70	353.87	5	469.9	64.5	2	
30KPA300A	30KPA300CA	300	334.00	367.40	5	484.0	62.0	2	
30KPA320A	30KPA320CA	320	357.40	391.40	5	530.0	57.2	2	
30KPA345A	30KPA345CA	345	384.0	425.0	5	557	54.4	2	
30KPA350A	30KPA350CA	350	391.00	428.10	5	567.0	53.4	2	
30KPA360A	30KPA360CA	360	402.10	440.30	5	640.0	47.3	2	

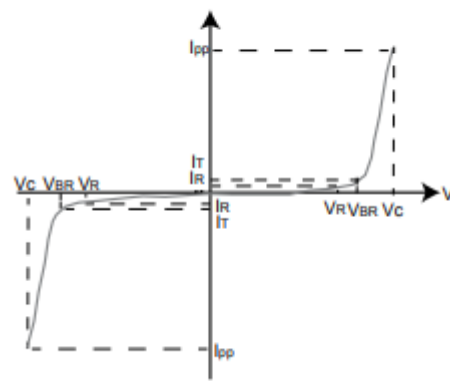


I-V Curve Characteristics

Uni-directional



Bi-directional



P_{PPM} Peak Pulse Power Dissipation -- Max power dissipation

V_R Stand-off Voltage -- Maximum voltage that can be applied to the TVS without operation

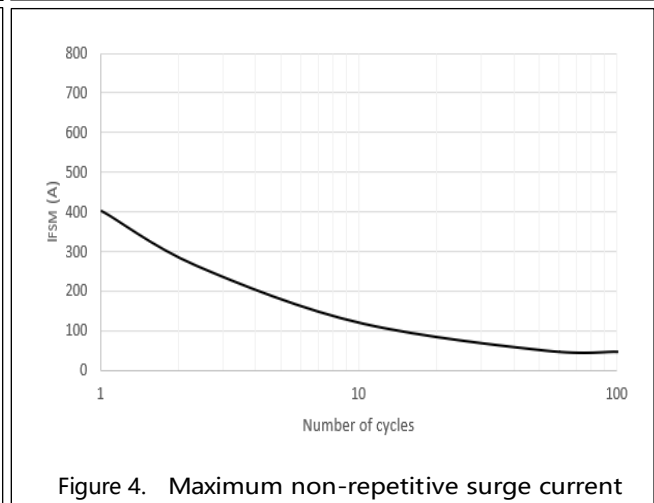
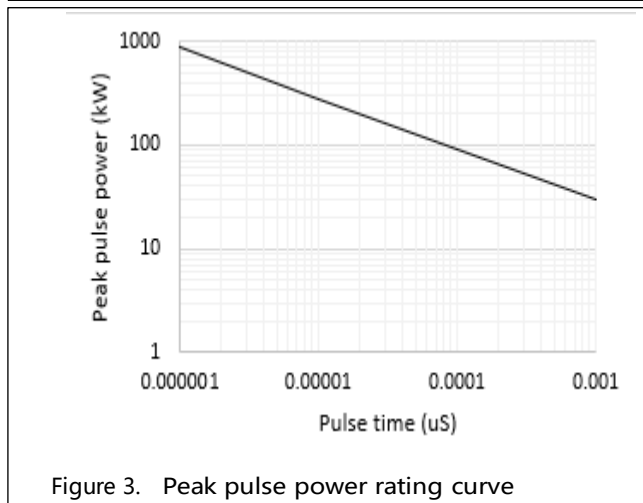
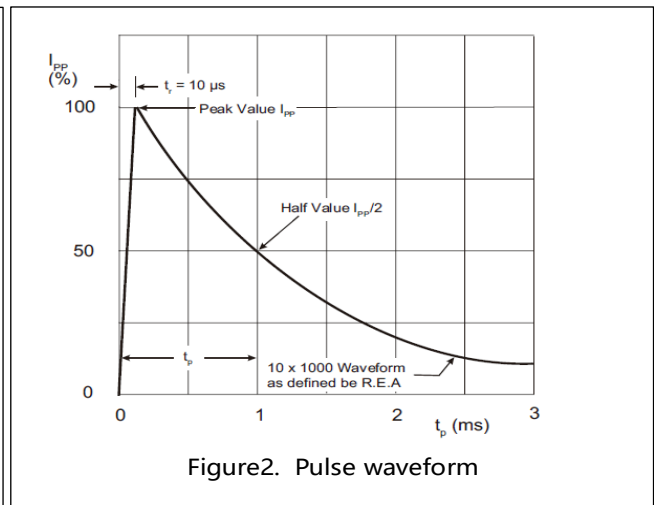
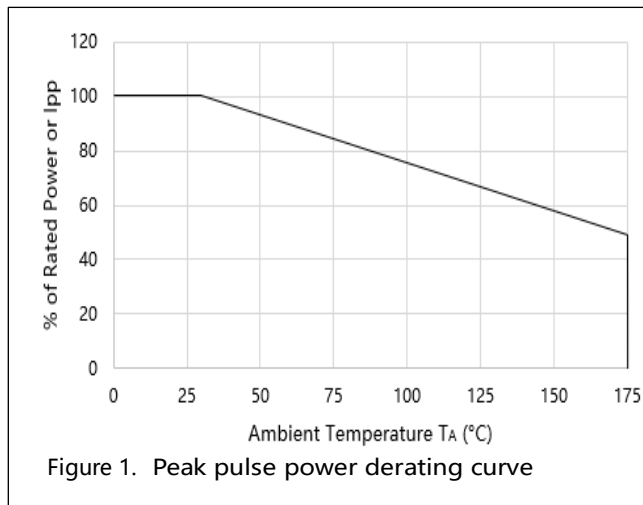
V_{BR} Breakdown Voltage -- Maximum voltage that flows through the TVS at a specified test current (I_T)

V_C Clamping Voltage -- Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)

I_R Reverse Leakage Current -- Current measured at V_R

V_F Forward Voltage Drop for Uni-directional

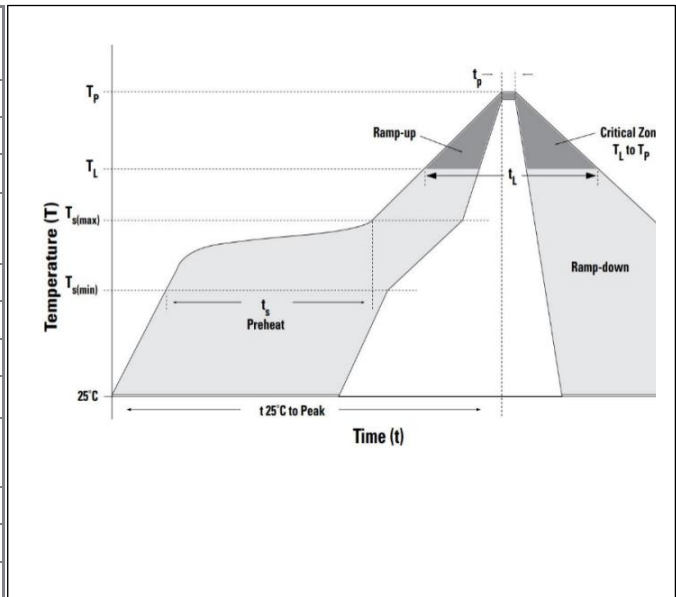
Ratings and Characteristic Curves (T = 25°C unless otherwise noted)



Soldering Parameters

Soldering profile

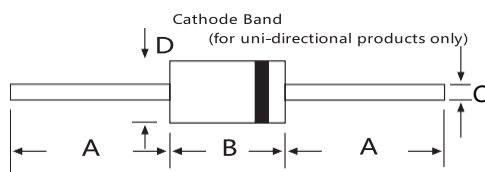
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_A) to peak)		3°C/second max
$T_{S(max)}$ to T_A - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_A) (Liquidus)	217°C
	- Time (min to max) (t_s)	60 – 150 seconds
Peak Temperature (T_p)		260+0/-5 °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_p)		8 minutes Max.
Do not exceed		260°C



Flow/Wave Soldering (Solder Dipping)

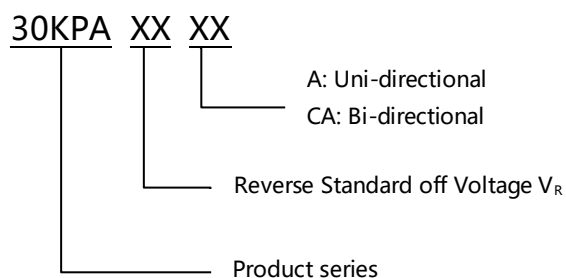
Peak Temperature:	265°C
Dipping Time:	10 seconds
Soldering:	1 time

Dimensions

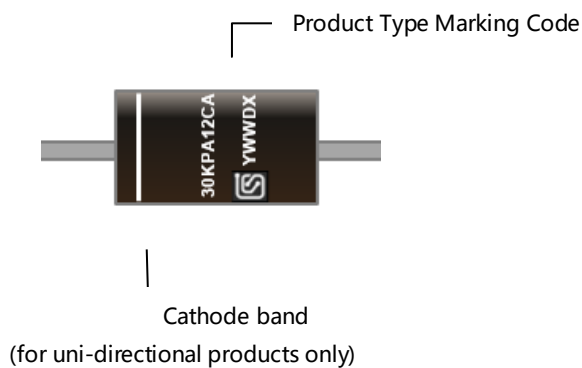


Dimensions	Inches		Millimeters	
	Min	Max	Min	Max
A	1.000	-	25.40	-
B	0.340	0.360	8.60	9.10
C	0.048	0.054	1.22	1.36
D	0.340	0.360	8.60	9.10

Part Numbering



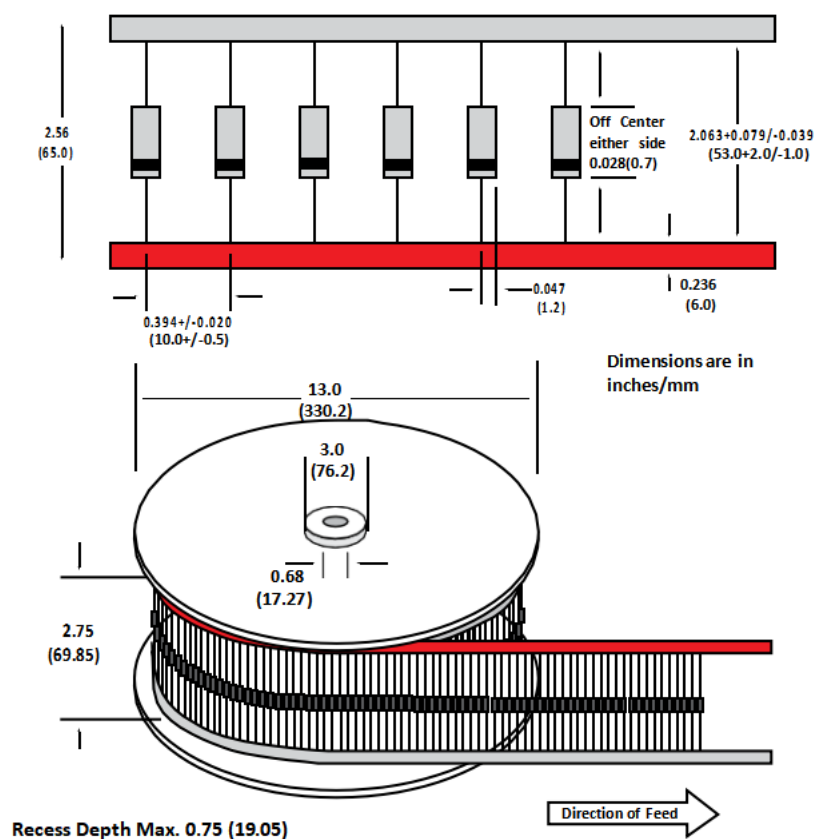
Part Marking



Packing

Part number	Package name	Small packing quantity	Packing method
30KPAXXXX	P600	800	Tape & Reel

Tape and Reel Specification



Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	15-Aug-2021
1.1	Add New Product	10-Aug-2023