

Features

- 1000W peak pulse power capability at 10/1000 μ s 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
- Meet MSL level1, per J-STD-020, lead-frame maximum peak of 260°C

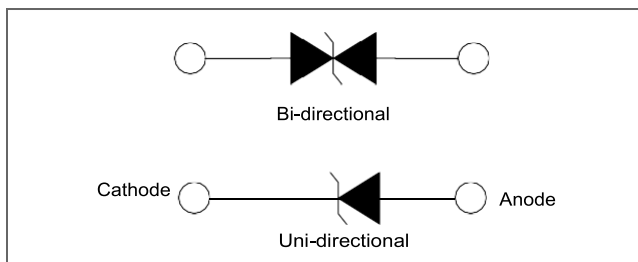
RoHS
Compliant



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 10/1000 μ s Waveform (Fig.3)	P _{PPM}	1000	W
Power Dissipation on Infinite Heat Sink at T _L =50°C	P _D	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 1)	I _{FSM}	120	A
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Only	V _F	3.5	V
Operating Temperature Range	T _J	-55 to 150	°C
Storage Temperature Range	T _{STG}	-55 to 150	°C

AGENCY	AGENCY FILE NUMBER
	Pending

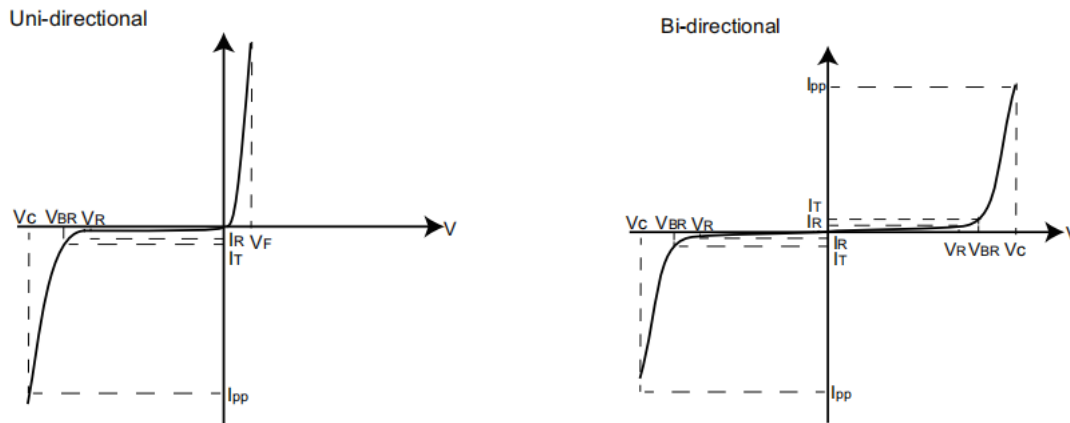
Notes:

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

Characteristics (T = 25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Key Marking UNI 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 _{PP} (V)	Maximum Peak Pulse Current I _{PP} (A)	Maximum Reverse Leakage I _R @ V _R (μA)	Agency Approval 
					MIN	MAX					
10BJ5.0A	10BJ5.0CA	1K005	1K005	5	6.4	7	10	9.2	108.7	500	
10BJ6.0A	10BJ6.0CA	1K006	1K006	6	6.67	7.37	10	10.3	97.1	500	
10BJ6.5A	10BJ6.5CA	1K06F	1K06F	6.5	7.22	7.98	10	11.2	89.3	100	
10BJ7.0A	10BJ7.0CA	1K007	1K007	7	7.8	8.6	10	12	83.4	50	
10BJ7.5A	10BJ7.5CA	1K07F	1K07F	7.5	8.33	9.21	1	12.9	77.6	50	
10BJ8.0A	10BJ8.0CA	1K008	1K008	8	8.89	9.83	1	13.6	73.6	50	
10BJ8.5A	10BJ8.5CA	1K08F	1K08F	8.5	9.44	10.4	1	14.4	69.5	20	
10BJ10A	10BJ10CA	1K010	1K010	10	11.10	12.30	1	17.0	58.9	5	
10BJ11A	10BJ11CA	1K011	1K011	11	12.20	13.50	1	18.2	55.0	3	
10BJ12A	10BJ12CA	1K012	1K012	12	13.30	14.70	1	19.9	50.3	3	
10BJ13A	10BJ13CA	1K013	1K013	13	14.40	15.90	1	21.5	46.6	1	
10BJ14A	10BJ14CA	1K014	1K014	14	15.60	17.20	1	23.2	43.1	1	
10BJ15A	10BJ15CA	1K015	1K015	15	16.70	18.50	1	24.4	41.0	1	
10BJ16A	10BJ16CA	1K016	1K016	16	17.80	19.70	1	26.0	38.5	1	
10BJ17A	10BJ17CA	1K017	1K017	17	18.90	20.90	1	27.6	36.3	1	
10BJ18A	10BJ18CA	1K018	1K018	18	20.00	22.10	1	29.2	34.3	1	
10BJ20A	10BJ20CA	1K020	1K020	20	22.20	24.50	1	32.4	30.9	1	
10BJ22A	10BJ22CA	1K022	1K022	22	24.40	26.90	1	35.5	28.2	1	
10BJ24A	10BJ24CA	1K024	1K024	24	26.70	29.50	1	38.9	25.7	1	
10BJ26A	10BJ26CA	1K026	1K026	26	28.90	31.90	1	42.1	23.8	1	
10BJ28A	10BJ28CA	1K028	1K028	28	31.10	34.40	1	45.4	22.1	1	
10BJ30A	10BJ30CA	1K030	1K030	30	33.30	36.80	1	48.4	20.7	1	
10BJ33A	10BJ33CA	1K033	1K033	33	36.70	40.60	1	53.3	18.8	1	
10BJ36A	10BJ36CA	1K036	1K036	36	40.00	44.20	1	58.1	17.2	1	
10BJ40A	10BJ40CA	1K040	1K040	40	44.40	49.10	1	64.5	15.5	1	
10BJ43A	10BJ43CA	1K043	1K043	43	47.80	52.80	1	69.4	14.4	1	
10BJ45A	10BJ45CA	1K045	1K045	45	50.00	55.30	1	72.7	13.8	1	
10BJ48A	10BJ48CA	1K048	1K048	48	53.30	58.90	1	77.4	13.0	1	
10BJ51A	10BJ51CA	1K051	1K051	51	56.70	62.70	1	82.4	12.2	1	
10BJ54A	10BJ54CA	1K054	1K054	54	60.00	66.30	1	87.1	11.5	1	
10BJ58A	10BJ58CA	1K058	1K058	58	64.40	71.20	1	93.6	10.7	1	
10BJ60A	10BJ60CA	1K060	1K060	60	66.70	73.70	1	96.8	10.3	1	

I-V Curve Characteristics



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)

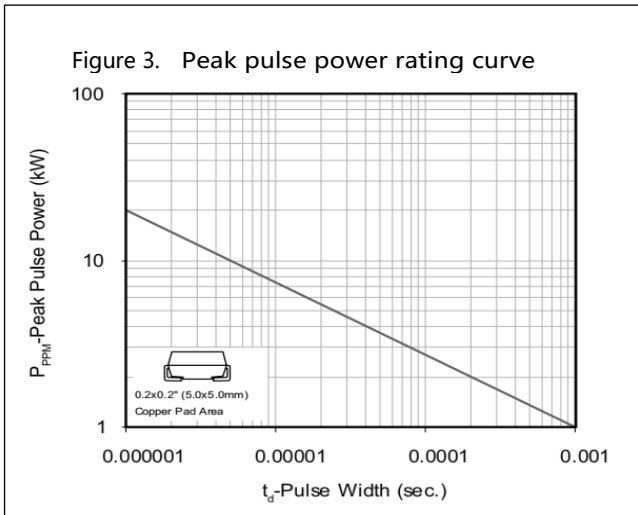
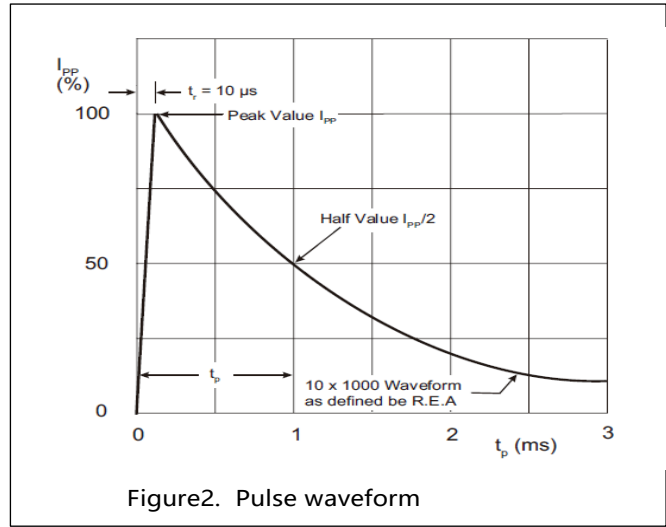
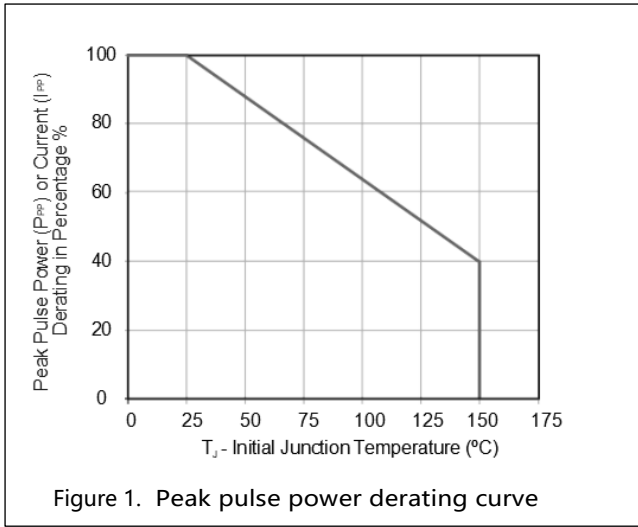
V_C Clamping Voltage -- Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)

I_R Reverse Leakage Current -- Current measured at V_R

V_F Forward Voltage Drop for Uni-directional



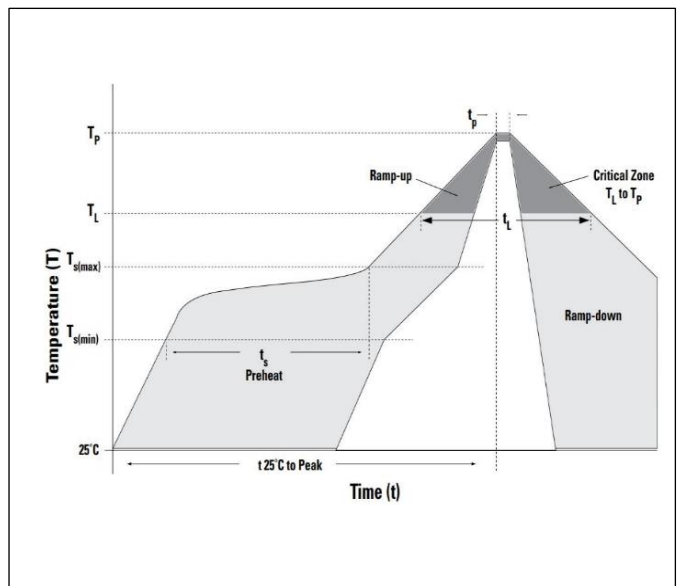
Ratings and Characteristic Curves (T = 25°C unless otherwise noted)



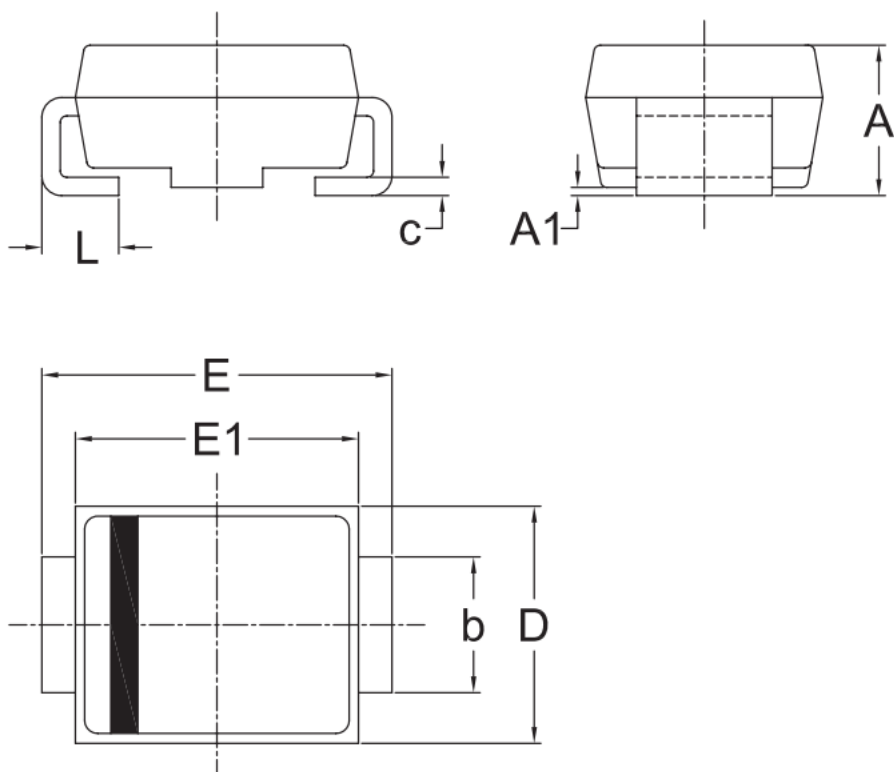
Soldering Parameters

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

Soldering profile



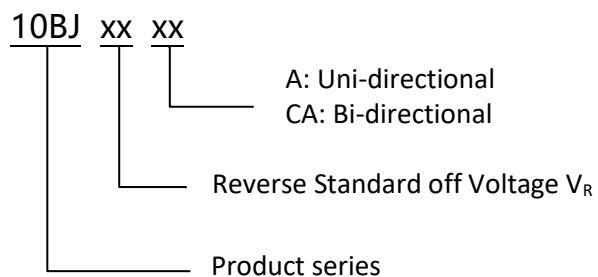
Dimensions



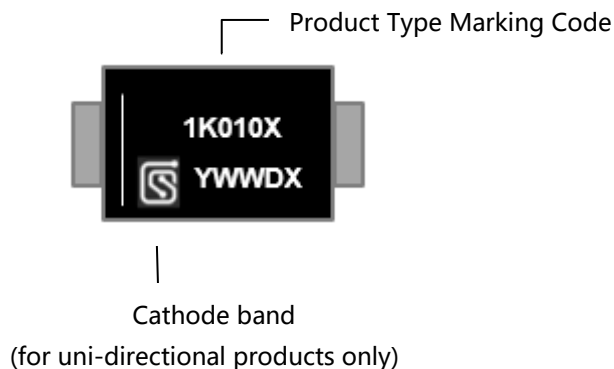
UNIT	A	A1	b	c	D	E	E1	L	
mm	Max	2.50	0.30	2.15	0.25	3.75	5.54	4.65	1.50
	Min	2.00	0.00	1.85	0.15	3.45	5.04	4.35	0.80

Remark: Dimensions D and E1 do not include mold flash & gate remain.

Part Numbering



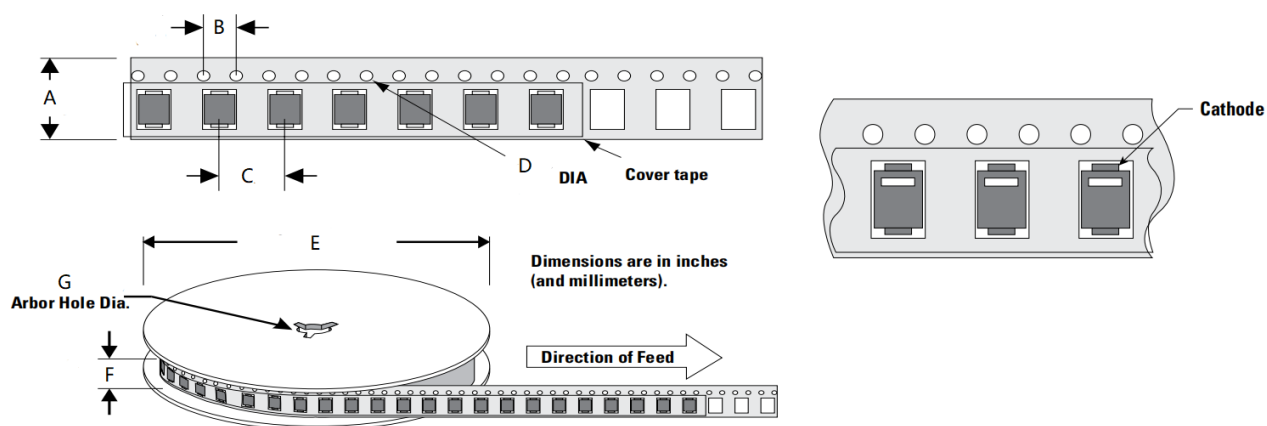
Part Marking



Packing

Part number	Package name	Small packing quantity	Packing method
10BJXXXX	DO-214AA	3000	Tape & Reel

Tape and Reel Specification



Symbol	Millimeter
A	12.00±0.10
B	4.00±0.10
C	8.00±0.10
D	1.55±0.05
E	330.20±2.00
F	15.70±2.00
G	13.30±0.30

Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-Aug-2021