

Features

- 1500W 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
- Meet MSL level1, per J-STD-020, lead-frame maximum peak of 260°C

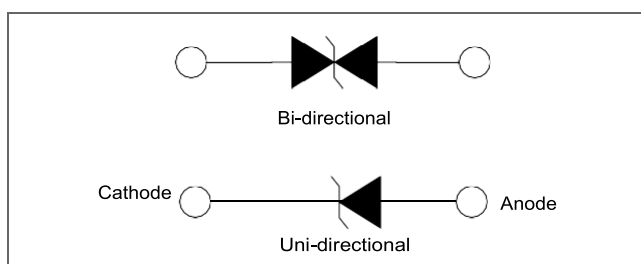
RoHS
Compliant



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



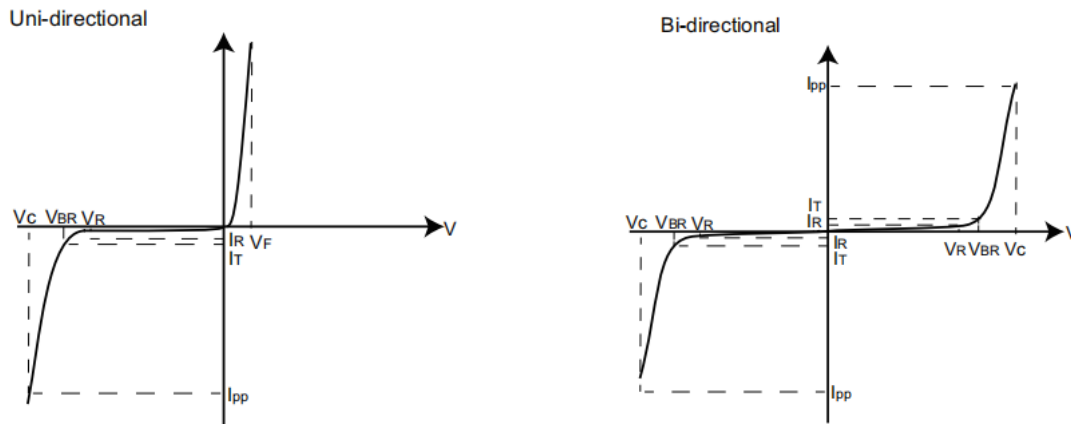
Maximum Ratings and Thermal Characteristics (T _A =25°C unless otherwise noted)			
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T _A =25°C by 10/1000μs Waveform	P _{PPM}	1500	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Only	V _F	3.5	V
Operating Temperature Range	T _J	-55 to 150	°C
Storage Temperature Range	T _{STG}	-55 to 150	°C

AGENCY	AGENCY FILE NUMBER
	Pending

Characteristics (T = 25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Key Marking		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 (μ A)	Agency Approval 
		UNI	BI		MIN	MAX					
15BJ10A	15BJ10CA	1F010	1F010	10	11.10	12.30	1	17.0	88.2	1	
15BJ11A	15BJ11CA	1F011	1F011	11	12.20	13.50	1	18.2	82.4	1	
15BJ12A	15BJ12CA	1F012	1F012	12	13.30	14.70	1	19.9	75.4	1	
15BJ13A	15BJ13CA	1F013	1F013	13	14.40	15.90	1	21.5	69.8	1	
15BJ14A	15BJ14CA	1F014	1F014	14	15.60	17.20	1	23.2	64.7	1	
15BJ15A	15BJ15CA	1F015	1F015	15	16.70	18.50	1	24.4	61.5	1	
15BJ16A	15BJ16CA	1F016	1F016	16	17.80	19.70	1	26.0	57.7	1	
15BJ17A	15BJ17CA	1F017	1F017	17	18.90	20.90	1	27.6	54.4	1	
15BJ18A	15BJ18CA	1F018	1F018	18	20.00	22.10	1	29.2	51.4	1	
15BJ20A	15BJ20CA	1F020	1F020	20	22.20	24.50	1	32.4	46.3	1	
15BJ22A	15BJ22CA	1F022	1F022	22	24.40	26.90	1	35.5	42.3	1	
15BJ24A	15BJ24CA	1F024	1F024	24	26.70	29.50	1	38.9	38.6	1	
15BJ26A	15BJ26CA	1F026	1F026	26	28.90	31.90	1	42.1	35.6	1	
15BJ28A	15BJ28CA	1F028	1F028	28	31.10	34.40	1	45.4	33.1	1	
15BJ30A	15BJ30CA	1F030	1F030	30	33.30	36.80	1	48.4	31.0	1	
15BJ33A	15BJ33CA	1F033	1F033	33	36.70	40.60	1	53.3	28.2	1	
15BJ36A	15BJ36CA	1F036	1F036	36	40.00	44.20	1	58.1	25.8	1	
15BJ40A	15BJ40CA	1F040	1F040	40	44.40	49.10	1	64.5	23.3	1	
15BJ43A	15BJ43CA	1F043	1F043	43	47.80	52.80	1	69.4	21.6	1	
15BJ45A	15BJ45CA	1F045	1F045	45	50.00	55.30	1	72.7	20.6	1	
15BJ48A	15BJ48CA	1F048	1F048	48	53.30	58.90	1	77.4	19.4	1	
15BJ51A	15BJ51CA	1F051	1F051	51	56.70	62.70	1	82.4	18.2	1	
15BJ54A	15BJ54CA	1F054	1F054	54	60.00	66.30	1	87.1	17.2	1	
15BJ58A	15BJ58CA	1F058	1F058	58	64.40	71.20	1	93.6	16.1	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)

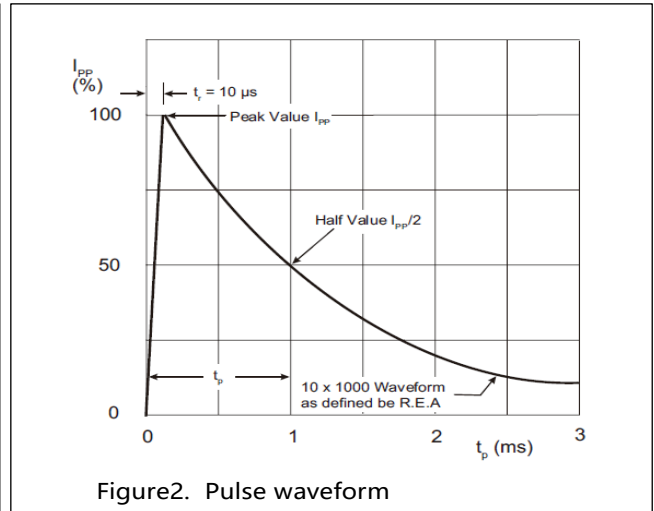
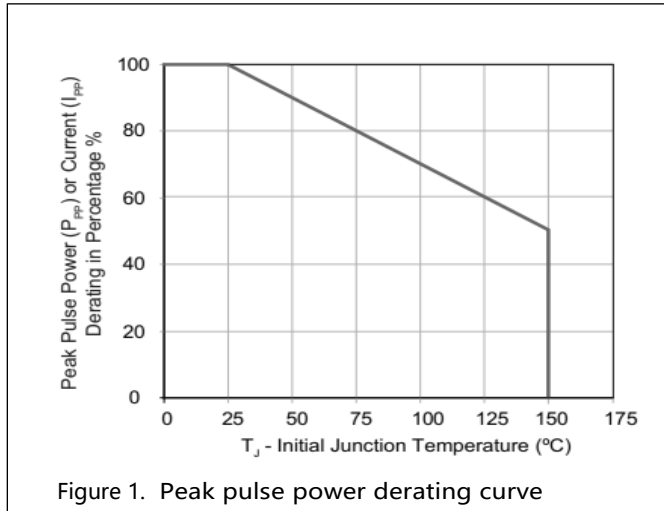
V_C Clamping Voltage -- Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)

I_R Reverse Leakage Current -- Current measured at V_R

V_F Forward Voltage Drop for Uni-directional



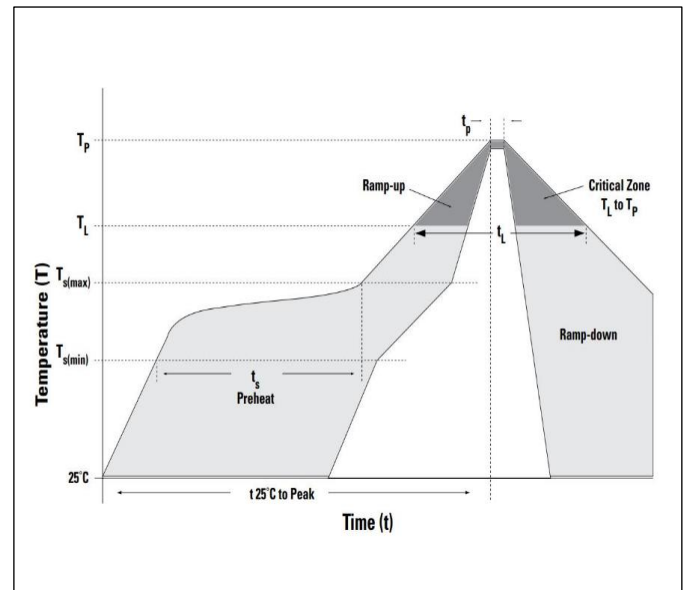
Ratings and Characteristic Curves (T = 25°C unless otherwise noted)



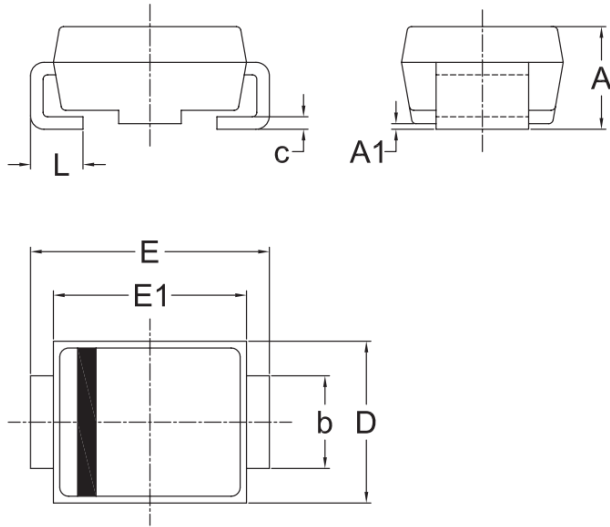
Soldering Parameters

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 $\pm$ 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

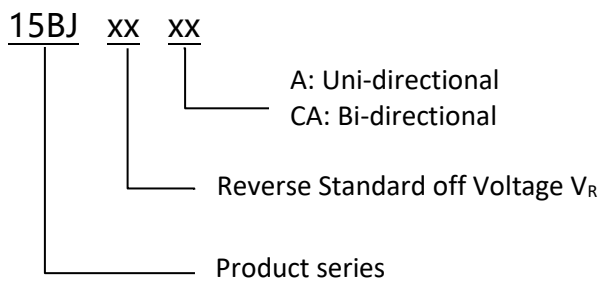


Dimensions

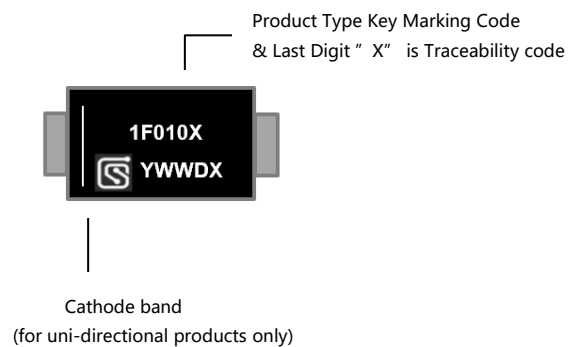


unit		A	A1	b	c	D	E	E1	L
mm	max	2.61	0.30	2.30	0.31	3.94	5.70	4.70	1.52
	min	1.99	0.10	1.70	0.15	3.30	5.05	4.06	0.76

Part Numbering



Part Marking



Revision history of Specification

Version	Change Items	Effective Date
1.0	Initial Release	13-July-2021
1.1	Update Marking	14-Oct-2024
1.2	Update Product Line	4-Mar-2025