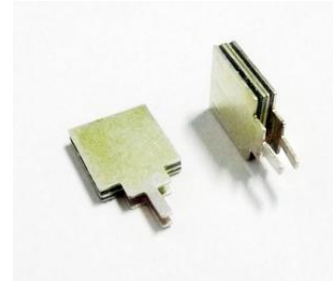


Transient Voltage Suppressors (TVS) Data Sheet

Features

- Lead terminals
- High current transient suppressor
- Excellent clamping capability
- Glass passivated junction
- Bi-directional.
- Low slope resistance.
- Hazardous Substances Free.
- RoHS compliant
- High Temperature soldering: 265°C/10 seconds at terminals.



Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value		Units
Current Rating	I_{PP}	HFA-C	3	KA
		HFB-C	6	
		HFC-C	10	
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +150		°C

Dimensions

	Symbol	Dimension	
		Inches	Millimeters
	A	0.370±0.016	9.40±0.40
	B	0.370±0.016	9.40±0.40
	C	0.457±0.016	11.60±0.40
	D	0.605±0.016	15.37±0.40
	E	0.190±0.012	4.83±0.30
	F	0.049±0.008	1.25±0.20
	G	0.787max	20.00max
	t	0.015±0.002	0.38±0.05

Note: Drawing here are for illustration only, actual assembly depends on specific part number.

Electrical Characteristics (T_A=25°C)

Part Number	Reverse Stand-Off Voltage		Breakdown Voltage	Test Current	Current Rating	Maximum Energy	Maximum Clamping Voltage	Reverse Leakage
	V _{AC} (V)	V _{DC} (V)	V _{BR} (V) MIN. @ I _T	I _T (mA)	Rated I _{PP} measured with 8/20μs	10/1000μs	V _C (V) @ I _{PP}	I _R (μA) @ V _{DC}
HFA-012S	8.5	12.8	14	1	3KA	500	80	20
HFA-015S	11	15	17	1	3KA	650	85	20
HFA-020S	14	20	22	1	3KA	800	90	20
HFA-025S	17	25	28	1	3KA	950	95	20
HFA-030S	21	30	33	1	3KA	1200	100	20
HFA-042S	30	42	47	1	3KA	1700	105	20
HFA-058S	40	58	64	1	3KA	2450	110	20
HFA-066S	45	66	70	1	3KA	2600	120	20
HFA-076S	54	76	85	1	3KA	2800	140	20
HFA-100S	72	100	110	1	3KA	4250	165	20
HFA-133S	100	133	147	1	3KA	5300	220	20
HFA-170S	130	170	180	1	3KA	7000	260	20
HFA-190S	145	190	200	1	3KA	8400	290	20
HFA-200S	150	200	222	1	3KA	8600	330	20
HFA-240S	180	240	250	1	3KA	9100	340	20
HFA-275S	210	275	300	1	3KA	9500	435	20
HFA-300S	230	300	330	1	3KA	12750	470	20
HFA-380S	275	380	401	1	3KA	15000	520	20
HFA-430S	310	430	440	1	3KA	18000	625	20
HFA-460S	330	460	500	1	3KA	18500	770	20
HFA-500S	385	500	558	1	3KA	19500	868	20
HFB-012S	8.5	12.8	14	1	6KA	1000	80	20
HFB-015S	11	15	17	1	6KA	1300	85	20
HFB-020S	14	20	22	1	6KA	1600	90	20
HFB-025S	17	25	28	1	6KA	1900	95	20
HFB-030S	21	30	33	1	6KA	2400	100	20
HFB-042S	30	42	47	1	6KA	3400	105	20
HFB-058S	40	58	64	1	6KA	4900	110	20
HFB-066S	45	66	70	1	6KA	5200	120	20
HFB-076S	54	76	85	1	6KA	5600	140	20
HFB-100S	72	100	110	1	6KA	8500	165	20
HFB-133S	100	133	147	1	6KA	10600	220	20
HFB-170S	130	170	180	1	6KA	14000	260	20

Part Number	Reverse Stand-Off Voltage		Breakdown Voltage $V_{BR}(V)$ MIN. @ I_T	Test Current $I_T(mA)$	Current Rating Rated I_{PP} measured with 8/20 μs	Maximum Energy 10/1000 μs	Maximum Clamping Voltage $V_C(V)$ @ I_{PP}	Reverse Leakage $I_R(\mu A)$ @ V_{DC}
	$V_{AC}(V)$	$V_{DC}(V)$						
HFB-190S	145	190	200	1	6KA	16800	290	20
HFB-200S	150	200	222	1	6KA	17200	330	20
HFB-240S	180	240	250	1	6KA	18000	340	20
HFB-275S	210	275	300	1	6KA	19000	435	20
HFB-300S	230	300	330	1	6KA	25500	470	20
HFB-380S	275	380	401	1	6KA	30000	520	20
HFC-012S	8.5	12.8	14	1	10KA	1665	80	20
HFC-015S	11	15	17	1	10KA	2164.5	85	20
HFC-020S	14	20	22	1	10KA	2664	90	20
HFC-025S	17	25	28	1	10KA	3163.5	95	20
HFC-030S	21	30	33	1	10KA	3996	100	20
HFC-042S	30	42	47	1	10KA	5661	105	20
HFC-058S	40	58	64	1	10KA	8158.5	110	20
HFC-066S	45	66	70	1	10KA	8658	120	20
HFC-076S	54	76	85	1	10KA	9324	140	20
HFC-100S	72	100	110	1	10KA	14152.5	165	20
HFC-133S	100	133	147	1	10KA	17649	220	20
HFC-170S	130	170	180	1	10KA	23310	260	20
HFC-190S	145	190	200	1	10KA	27972	290	20

Notes: 1. $T_A=25^\circ C$ unless otherwise specified
 2. Using 8/20 μs wave shape pulses as defined in IEC61000-4-5

Ratings and Characteristic Curves ($T_A=25^\circ C$ unless otherwise noted)

Figure 1. Power Derating Curve

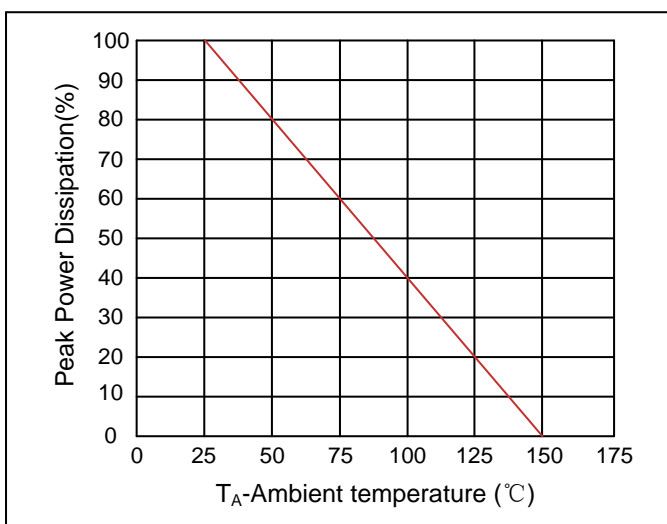
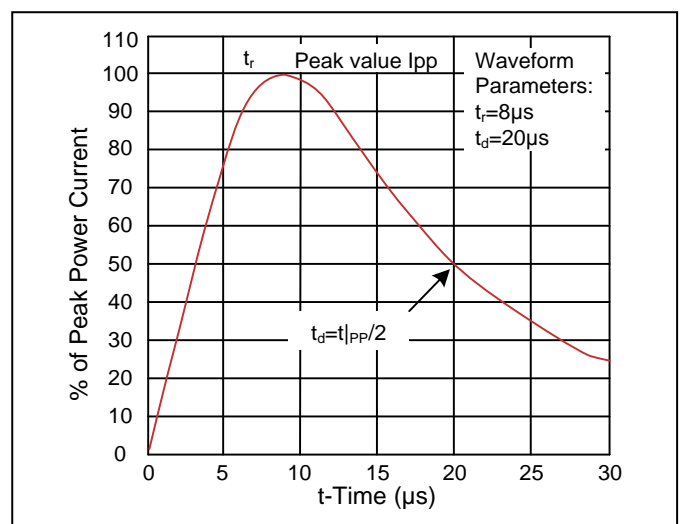
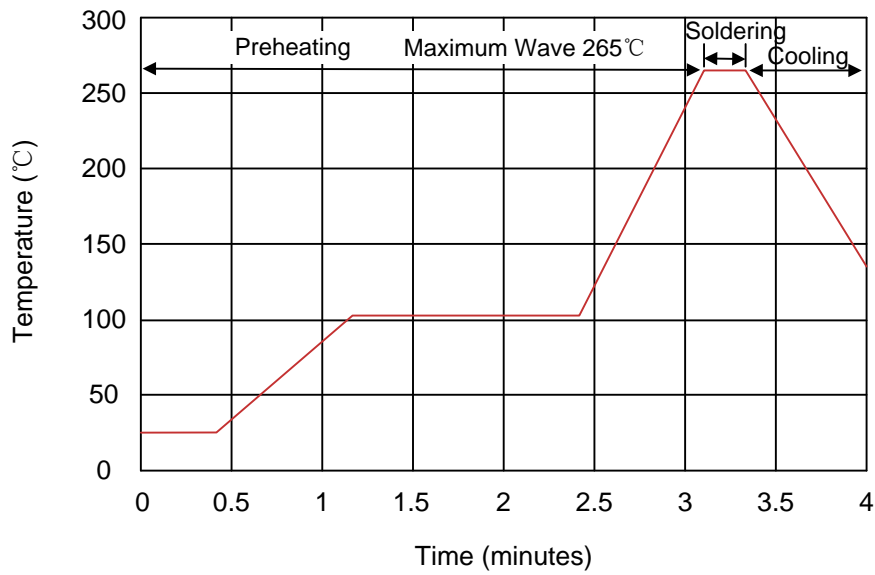


Figure 2. Pulse Waveform



Recommended Soldering Conditions

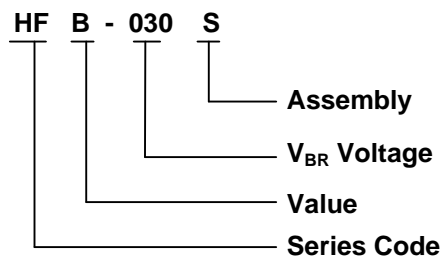
Wave Soldering



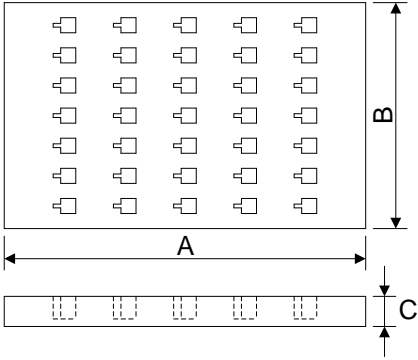
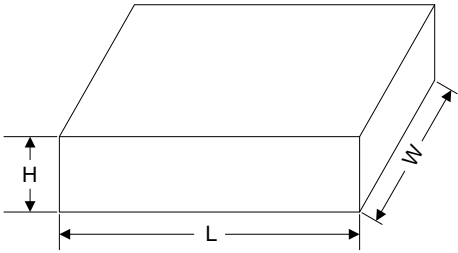
Recommended Conditions

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

Part Number Code



Packaging

Hole foam packing		Symbol	Dimension (mm)
		A	238.0±1.0
		B	150.0±1.0
		C	20.0±1.0
Inner Box 		Quantity: 35PCS	
		L	250.0
		W	65.0
		H	165.0
		Quantity: 105PCS	