Prisemi®

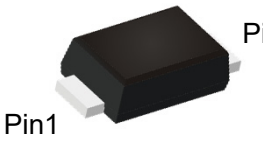
PTVSHC1JFxxVU/VB

200W Transient Voltage Suppressor

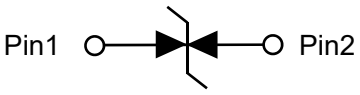
Description

TVS diodes can be used in a wide range of applications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.

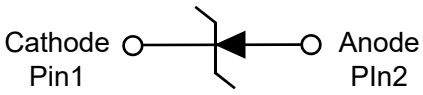
Bi-directional: PTVSHC1JFxxVB
Uni-directional: PTVSHC1JFxxVU



Top View



Circuit Diagram



Circuit Diagram

Feature

- Glass passivated junction
- Low profile package and low inductance
- 200W Peak Pulse power capability at 10/1000μs waveform.
- Plastic package has Underwriters Laboratory Flammability.
- For surface mounted applications in order to optimize board space.

Mechanical Characteristics

- Package: SOD-123FL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight:15mg/0.00048oz

Absolute maximum rating@25℃

Rating	Symbol	Value	Units
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	200	W
Peak Forward Surge Current	I_{FSM}(Uni)	20	A
Steady State Power Dissipation @ T_L=75℃	$P_{M(AV)}$	1.0	W
Typical Thermal Resistance	$R_{\theta JA}$	180	℃/W
Junction and Storage Temperature Range	T_J,T_{STG}	-55~+150	℃

Electrical characteristics per line@25℃(unless otherwise specified)

Part Number		V_{RMW}	V_{BR}@I_T		I_T	I_R@V_{RWM}	V_C@I_{PP}	I_{PP}
Uni	Bi	V	min(V)	max(V)	mA	μA	V	A
PTVSHC1JF5VU	PTVSHC1JF5VB	5.0	6.4	7.0	10	400	9.2	21.7
PTVSHC1JF6VU	PTVSHC1JF6VB	6.0	6.67	7.37	10	400	10.3	19.4
PTVSHC1JF6V5U	PTVSHC1JF6V5B	6.5	7.22	7.98	10	250	11.2	17.9
PTVSHC1JF7VU	PTVSHC1JF7VB	7.0	7.78	8.6	10	100	12	16.7
PTVSHC1JF7V5U	PTVSHC1JF7V5B	7.5	8.33	9.21	1.0	50	12.9	15.5
PTVSHC1JF8VU	PTVSHC1JF8VB	8.0	8.89	9.83	1.0	25	13.6	14.7
PTVSHC1JF8V5U	PTVSHC1JF8V5B	8.5	9.44	10.4	1.0	10	14.4	13.9
PTVSHC1JF9VU	PTVSHC1JF9VB	9.0	10	11.1	1.0	5.0	15.4	13
PTVSHC1JF10VU	PTVSHC1JF10VB	10	11.1	12.3	1.0	2.5	17	11.8
PTVSHC1JF11VU	PTVSHC1JF11VB	11	12.2	13.5	1.0	2.5	18.2	11
PTVSHC1JF12VU	PTVSHC1JF12VB	12	13.3	14.7	1.0	2.5	19.9	10.1
PTVSHC1JF13VU	PTVSHC1JF13VB	13	14.4	15.9	1.0	1.0	21.5	9.3
PTVSHC1JF14VU	PTVSHC1JF14VB	14	15.6	17.2	1.0	1.0	23.2	8.6
PTVSHC1JF15VU	PTVSHC1JF15VB	15	16.7	18.5	1.0	1.0	24.4	8.2
PTVSHC1JF16VU	PTVSHC1JF16VB	16	17.8	19.7	1.0	1.0	26	7.7
PTVSHC1JF17VU	PTVSHC1JF17VB	17	18.9	20.9	1.0	1.0	27.6	7.2
PTVSHC1JF18VU	PTVSHC1JF18VB	18	20	22.1	1.0	1.0	29.2	6.8
PTVSHC1JF20VU	PTVSHC1JF20VB	20	22.2	24.5	1.0	1.0	32.4	6.2
PTVSHC1JF22VU	PTVSHC1JF22VB	22	24.4	26.9	1.0	1.0	35.5	5.6
PTVSHC1JF24VU	PTVSHC1JF24VB	24	26.7	29.5	1.0	1.0	38.9	5.1
PTVSHC1JF26VU	PTVSHC1JF26VB	26	28.9	31.9	1.0	1.0	42.1	4.8
PTVSHC1JF28VU	PTVSHC1JF28VB	28	31.1	34.4	1.0	1.0	45.4	4.4
PTVSHC1JF30VU	PTVSHC1JF30VB	30	33.3	36.8	1.0	1.0	48.4	4.1
PTVSHC1JF33VU	PTVSHC1JF33VB	33	36.7	40.6	1.0	1.0	53.3	3.8
PTVSHC1JF36VU	PTVSHC1JF36VB	36	40	44.2	1.0	1.0	58.1	3.4
PTVSHC1JF40VU	PTVSHC1JF40VB	40	44.4	49.1	1.0	1.0	64.5	3.1
PTVSHC1JF43VU	PTVSHC1JF43VB	43	47.8	52.8	1.0	1.0	69.4	2.9

Part Number		V_{RMW}	$V_{BR}@I_T$		I_T	$I_R@V_{RWM}$	$V_C@I_{PP}$	I_{PP}
Uni	Bi	V	min(V)	max(V)	mA	μA	V	A
PTVSHC1JF45VU	PTVSHC1JF45VB	45	50	55.3	1.0	1.0	72.7	2.8
PTVSHC1JF48VU	PTVSHC1JF48VB	48	53.3	58.9	1.0	1.0	77.4	2.6
PTVSHC1JF51VU	PTVSHC1JF51VB	51	56.7	62.7	1.0	1.0	82.4	2.4
PTVSHC1JF54VU	PTVSHC1JF54VB	54	60	66.3	1.0	1.0	87.1	2.3
PTVSHC1JF58VU	PTVSHC1JF58VB	58	64.4	71.2	1.0	1.0	93.6	2.1
PTVSHC1JF60VU	PTVSHC1JF60VB	60	66.7	73.7	1.0	1.0	96.8	1.8
PTVSHC1JF64VU	PTVSHC1JF64VB	64	71.1	78.6	1.0	1.0	103	1.7
PTVSHC1JF70VU	PTVSHC1JF70VB	70	77.8	86	1.0	1.0	113	1.5
PTVSHC1JF75VU	PTVSHC1JF75VB	75	83.3	92.1	1.0	1.0	121	1.4
PTVSHC1JF78VU	PTVSHC1JF78VB	78	86.7	95.8	1.0	1.0	126	1.4
PTVSHC1JF85VU	PTVSHC1JF85VB	85	94.4	104	1.0	1.0	137	1.3
PTVSHC1JF90VU	PTVSHC1JF90VB	90	100	111	1.0	1.0	146	1.2
PTVSHC1JF100VU	PTVSHC1JF100VB	100	111	123	1.0	1.0	162	1.1
PTVSHC1JF110VU	PTVSHC1JF110VB	110	122	135	1.0	1.0	177	1.0
PTVSHC1JF120VU	PTVSHC1JF120VB	120	133	147	1.0	1.0	193	0.9
PTVSHC1JF130VU	PTVSHC1JF130VB	130	144	159	1.0	1.0	209	0.8
PTVSHC1JF150VU	PTVSHC1JF150VB	150	167	185	1.0	1.0	243	0.7
PTVSHC1JF160VU	PTVSHC1JF160VB	160	178	197	1.0	1.0	259	0.7
PTVSHC1JF170VU	PTVSHC1JF170VB	170	189	209	1.0	1.0	275	0.6
PTVSHC1JF180VU	PTVSHC1JF180VB	180	201	222	1.0	1.0	292	0.5
PTVSHC1JF190VU	PTVSHC1JF190VB	190	211	232	1.0	1.0	308	0.5
PTVSHC1JF200VU	PTVSHC1JF200VB	200	224	247	1.0	1.0	324	0.5
PTVSHC1JF220VU	PTVSHC1JF220VB	220	246	272	1.0	1.0	356	0.5
PTVSHC1JF250VU	PTVSHC1JF250VB	250	279	309	1.0	1.0	405	0.5
PTVSHC1JF300VU	PTVSHC1JF300VB	300	335	371	1.0	1.0	486	0.45
PTVSHC1JF350VU	PTVSHC1JF350VB	350	391	432	1.0	1.0	567	0.4
PTVSHC1JF400VU	PTVSHC1JF400VB	400	447	494	1.0	1.0	648	0.35
PTVSHC1JF440VU	-	440	492	543	1.0	1.0	713	0.3

Typical Characteristics

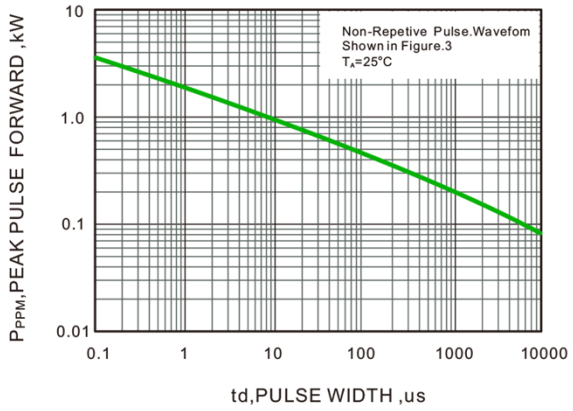


Fig.1 Peak Pulse Power Rating Curve

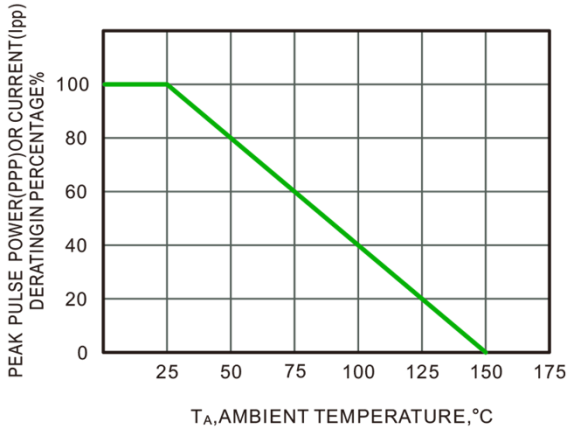


Fig.2 Forward Current Derating Curve

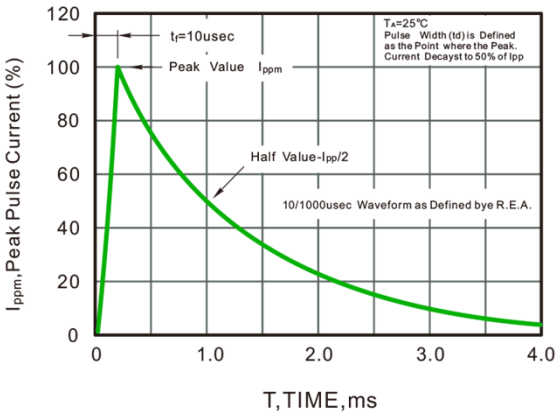


Fig.3 Pulse Waveform

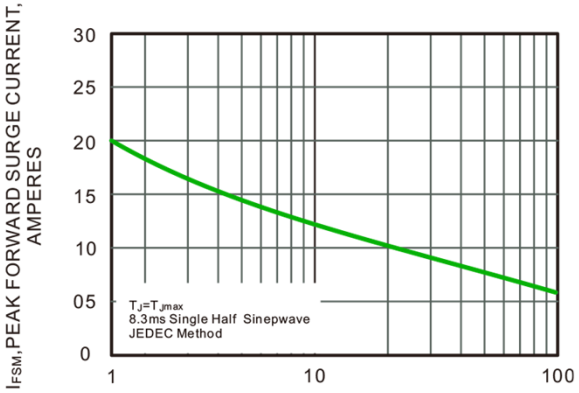
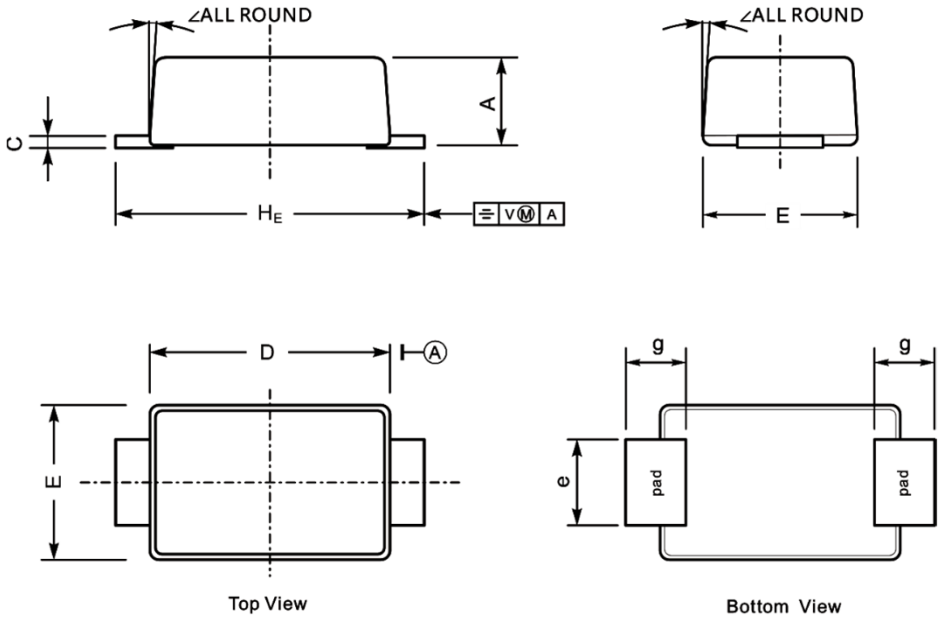
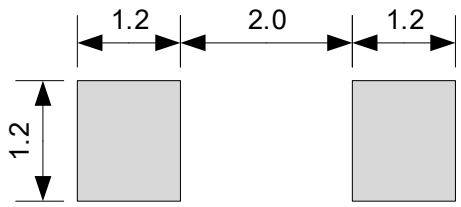


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

Product dimension (SOD-123FL)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	0.90	1.10	0.035	0.043
C	0.12	0.20	0.005	0.008
D	2.60	2.90	0.102	0.114
E	1.70	1.90	0.067	0.075
e	0.80	1.10	0.031	0.043
g	0.70	0.90	0.028	0.035
H_E	3.50	3.80	0.138	0.150
∠	7°			



Unit:mm

Suggested PCB Layout

IMPORTANT NOTICE

Prisemi® and Prisemi® are registered trademarks of **Prisemi Electronics Co., Ltd** (Prisemi**),** Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: http://www.prisemi.com
For additional information, please contact your local Sales Representative.