HSVC005AD1F thru HSVC085AD1F

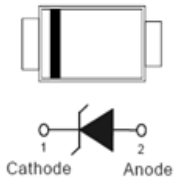
Transient Voltage Suppressors	Reverse Voltage 5 - 85 Volts Power Dissipation - 400 Watts

Features

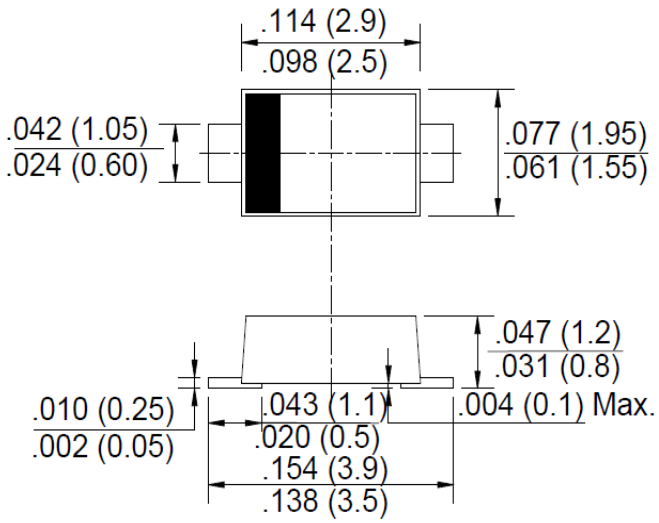
- Glass passivated chip
- Maximum 400 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Unidirectional
- Excellent clamping capability
- Very fast response time
- RoHS compliant
- Epoxy: UL 94V-0 rate flame retardant

Mechanical data

- Method: SOD-123FL
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Mounting position: Any
- Weight: Approx. 0.0006 ounce, 0.0173grams



SOD-123FL



Dimensions in inches and (milimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25℃ ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	Value	Unit
Peak power dissipation with a 10/1000μs waveform(1)(3)	P_{PP}	400	W
Peak pulse current with a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only	I_{FSM}	30	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating Junction Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

Note: 1. Non-repetitive current pulse per Fig.3 and derated above TA= 25 °C per Fig.1.

2.Measured on 8.3 ms single half sine-wave or equivalent square wave for unidirectional device only

3.SMF4L5.0A~SMF4L9.0A Peak Pulse Power Dissipation is 370W min, 400W typical @10/1000μs

HSVC* AD1F-7-99-00

Rev. 1, 18-Mar-2019

Part Number	Marking Code	Breakdown Voltage			Max. Reverse Leakage	Working Peak Reverse Voltage	Max. Reverse Surge Current	Max. Clamping Voltage
		V_{BR} @ IT			I_R @ V_{RWM}	V_{RWM}	IPP	V_C@I_{PP}
		Min.	Max.	IT				
		V	V	m A	µA	V	A	V
HSVC005AD1F	KE	6.4	7	10	800	5	40.1	9.2
HSVC006AD1F	KG	6.67	7.37	10	800	6	35.9	10.3
HSVC6P5AD1F	KK	7.22	7.98	10	500	6.5	33.1	11.2
HSVC007AD1F	KM	7.78	8.6	10	200	7	30.9	12
HSVC7P5AD1F	KP	8.33	9.21	1	100	7.5	28.7	12.9
HSVC008AD1F	KR	8.89	9.83	1	50	8	27.2	13.6
HSVC8P5AD1F	KT	9.44	10.4	1	20	8.5	25.7	14.4
HSVC009AD1F	KV	10	11.1	1	10	9	24.1	15.4
HSVC010AD1F	KX	11.1	12.3	1	5	10	23.5	17
HSVC011AD1F	KZ	12.2	13.5	1	1	11	22	18.2
HSVC012AD1F	LE	13.3	14.7	1	1	12	20.1	19.9
HSVC013AD1F	LG	14.4	15.9	1	1	13	18.6	21.5
HSVC014AD1F	LK	15.6	17.2	1	1	14	17.2	23.2
HSVC015AD1F	LM	16.7	18.5	1	1	15	16.4	24.4
HSVC016AD1F	LP	17.8	19.7	1	1	16	15.4	26
HSVC017AD1F	LR	18.9	20.9	1	1	17	14.5	27.6
HSVC018AD1F	LT	20	22.1	1	1	18	13.7	29.2
HSVC020AD1F	LV	22.2	24.5	1	1	20	12.3	32.4
HSVC022AD1F	LX	24.4	26.9	1	1	22	11.3	35.5
HSVC024AD1F	LZ	26.7	29.5	1	1	24	10.3	38.9
HSVC026AD1F	ME	28.9	31.9	1	1	26	9.5	42.1
HSVC028AD1F	MG	31.1	34.4	1	1	28	8.8	45.4
HSVC030AD1F	MK	33.3	36.8	1	1	30	8.3	48.4
HSVC033AD1F	MM	36.7	40.6	1	1	33	7.5	53.3
HSVC036AD1F	MP	40	44.2	1	1	36	6.9	58.1
HSVC040AD1F	MR	44.4	49.1	1	1	40	6.2	64.5
HSVC043AD1F	MT	47.8	52.8	1	1	43	5.8	69.4
HSVC045AD1F	MV	50	55.3	1	1	45	5.5	72.7
HSVC048AD1F	MX	53.3	58.9	1	1	48	5.2	77.4
HSVC051AD1F	MZ	56.7	62.7	1	1	51	4.9	82.4
HSVC054AD1F	NE	60	66.3	1	1	54	4.6	87.1
HSVC058AD1F	NG	64.4	71.2	1	1	58	4.3	93.6
HSVC060AD1F	NK	66.7	73.7	1	1	60	4.1	96.8
HSVC064AD1F	NM	71.1	78.6	1	1	64	3.9	103
HSVC070AD1F	NP	77.8	86	1	1	70	3.5	113
HSVC075AD1F	NR	83.3	92.1	1	1	75	3.3	121
HSVC078AD1F	NT	86.7	95.8	1	1	78	3.2	126
HSVC085AD1F	NV	94.4	104	1	1	85	2.9	137

Fig. 1 Pulse Derating Curve

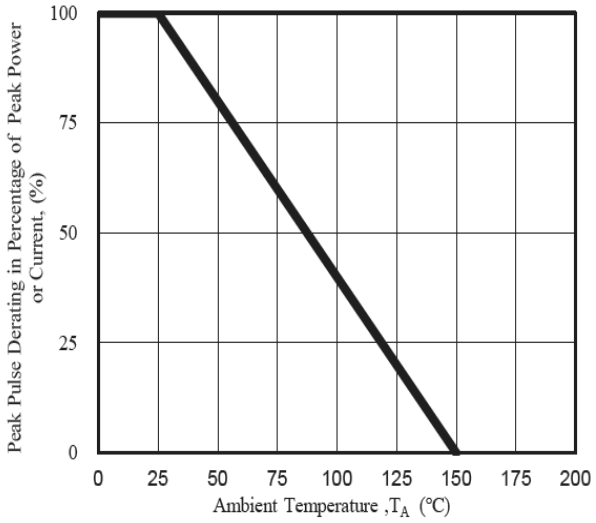


Fig. 2 Maximum Non-Repetitive

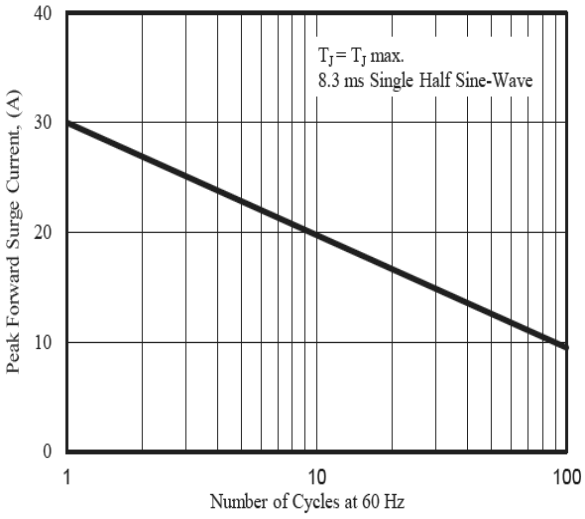


Fig. 3 Pulse Waveform

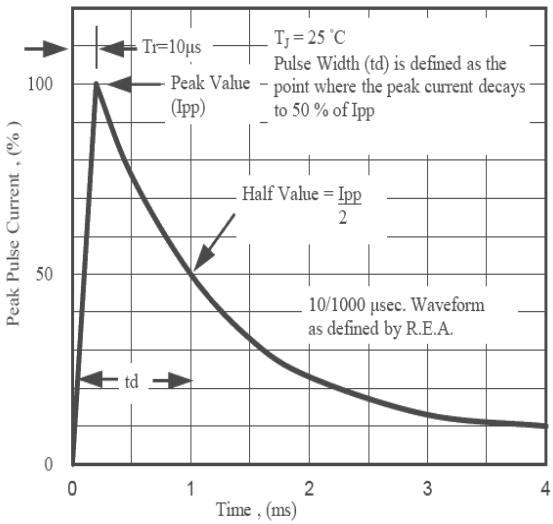


Fig. 4 Typical Junction Capacitance

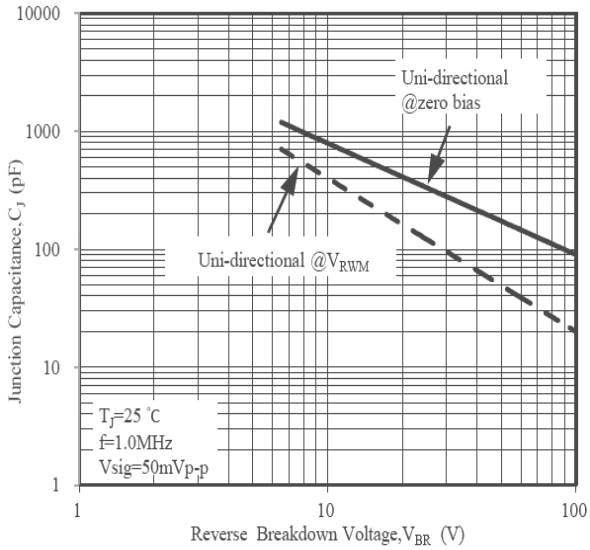
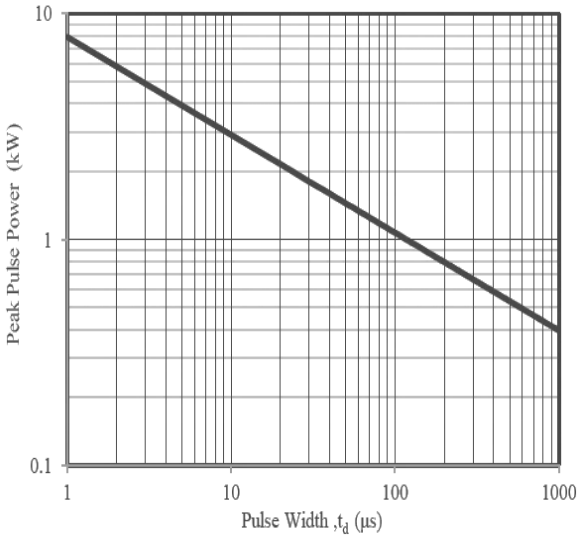


Fig. 5 Steady State Power Derating Curve



The curve graph is for reference only, can't be the basis for judgment!

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Rev. 2, 16-Mar-2017