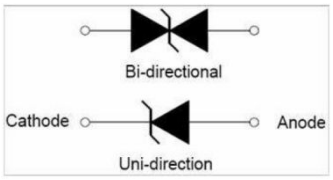
SSCTXXX4XD1 Series

400W 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.

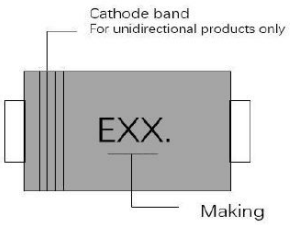
PIN configuration



Top view

Feature

- Glass passivated or planar junction
- Excellent clamping capability
- Repetition rate (duty cycle): 0.01%
- Low profile package and low inductance
- 400W Peak Pulse power capability at 10×1000 μs waveform.
- Fast response time: typically less than 1.0ps from 0V to VBR min.
- High temperature soldering: 260℃/10s at terminals.
- Plastic package has Underwriters Laboratory Flammability 94V-0.
- For surface mounted applications in order to optimize board space.



Marking

Mechanical data

- Package: SOD-123FL/SMF
- Case Material: “Green” MoldingCompound.
- UL Flammability Classification Rating 94V-0
- Polarity: Color band denotes cathode except bi-directional models
- Weight: 0.017g

Applications

- I/O Interface
- DVI & HDMI Port Protection
- AC/DC Power supply
- Mobile Handsets
- Digital Cameras and camcorders
- Low frequency signal transmission line
- (RS232, RS485, etc.)
- Digital TV and Set-top Boxes

- **Absolute maximum rating @TA=25℃**

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power（10/1000μS）	400	W
VF	Maximum Instantaneous Forward Voltage at 30A for Unidirectional	6.5	V
T_{STG}	Storage Temperature	-55/+150	℃
T_J	Operating Temperature	-55/+150	℃

- **Electrical Characteristics @TA=25℃**

Part Number		Marking		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	Min(V)	Max(V)	mA	max(V)	A
SSCT3V341D1	SSCT3V342D1	EHD	ETD	3.3	400	4.10	4.75	10	7.3	54.7
SSCT5V041D1	SSCT5V042D1	EHE	ETE	5.0	400	6.40	7.00	10	9.2	43.5
SSCT6V041D1	SSCT6V042D1	EHG	ETG	6.0	400	6.67	7.37	10	10.3	38.8
SSCT6V541D1	SSCT6V542D1	EHK	ETK	6.5	250	7.22	7.98	10	11.2	35.7
SSCT7V041D1	SSCT7V042D1	EHM	ETM	7.0	100	7.78	8.60	10	12.0	33.3
SSCT7V541D1	SSCT7V542D1	EHP	ETP	7.5	50	8.33	9.21	1	12.9	31.0
SSCT8V041D1	SSCT8V042D1	EHR	ETR	8.0	25	8.89	9.83	1	13.6	29.4
SSCT8V541D1	SSCT8V542D1	EHT	ETT	8.5	10	9.44	10.40	1	14.4	27.8
SSCT9V041D1	SSCT9V042D1	EHV	ETV	9.0	5	10.00	11.10	1	15.4	26.0
SSCT10V41D1	SSCT10V42D1	EHX	ETX	10.0	2.5	11.10	12.30	1	17.0	23.5
SSCT11V41D1	SSCT11V42D1	EHZ	ETZ	11.0	2.5	12.20	13.50	1	18.2	22.0
SSCT12V41D1	SSCT12V42D1	EIE	EUE	12.0	2.5	13.30	14.70	1	18.9	20.1
SSCT13V41D1	SSCT13V42D1	EIG	EUG	13.0	1	14.40	15.90	1	21.5	18.6
SSCT14V41D1	SSCT14V42D1	EIK	EUK	14.0	1	15.60	17.20	1	23.2	17.2
SSCT15V41D1	SSCT15V42D1	EIM	EUM	15.0	1	16.70	18.50	1	24.4	16.4
SSCT16V41D1	SSCT16V42D1	EIP	EUP	16.0	1	17.80	19.70	1	26.0	15.4
SSCT17V41D1	SSCT17V42D1	EIR	EUR	17.0	1	18.90	20.90	1	27.6	14.5
SSCT18V41D1	SSCT18V42D1	EIT	EUT	18.0	1	20.00	22.10	1	29.2	13.7
SSCT20V41D1	SSCT20V42D1	EIV	EUV	20.0	1	22.20	24.50	1	32.4	12.3
SSCT22V41D1	SSCT22V42D1	EIX	EUX	22.0	1	24.40	26.90	1	35.5	11.3
SSCT24V41D1	SSCT24V42D1	EIZ	EUZ	24.0	1	26.70	29.50	1	38.9	10.3
SSCT26V41D1	SSCT26V42D1	EJE	EVE	26.0	1	28.90	31.90	1	42.1	9.5
SSCT28V41D1	SSCT28V42D1	EJG	EVG	28.0	1	31.10	34.40	1	45.4	8.8
SSCT30V41D1	SSCT30V42D1	EJK	EVK	30.0	1	33.30	36.80	1	48.4	8.3
SSCT33V41D1	SSCT33V42D1	EJM	EVM	33.0	1	36.70	40.60	1	53.3	7.5
SSCT36V41D1	SSCT36V42D1	EJP	EVP	36.0	1	40.00	44.20	1	58.1	6.9
SSCT40V41D1	SSCT40V42D1	EJR	EVR	40.0	1	44.40	49.10	1	64.5	6.2
SSCT43V41D1	SSCT43V42D1	EJT	EVT	43.0	1	47.80	52.80	1	69.4	5.8

Part Number		Marking		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	Uni	Bi	V	μA	Min(V)	Max(V)	mA	max(V)	A
SSCT45V41D1	SSCT45V42D1	EJV	EVV	45.0	1	50.00	55.30	1	72.7	5.5
SSCT48V41D1	SSCT48V42D1	EJX	EVX	48.0	1	53.30	58.90	1	77.4	5.2
SSCT51V41D1	SSCT51V42D1	EJZ	EVZ	51.0	1	56.70	62.7	1	82.4	4.9
SSCT54V41D1	SSCT54V42D1	ERE	EWE	54.0	1	60.0	66.3	1	87.1	4.6
SSCT58V41D1	SSCT58V42D1	ERG	EWG	58.0	1	64.4	71.2	1	93.6	4.3

① Surge waveform: 10/1000 μs

V_R ： Stand-off Voltage -- Maximum voltage that can be applied

V_{BR}： Breakdown Voltage

V_C：Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp

I_R： Reverse Leakage Current

- **Ratings And V-I Characteristics Curves @TA=25℃**

FIG.1:V- I curve characteristics (Uni-directional)

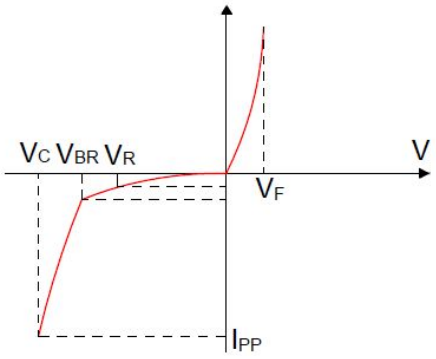
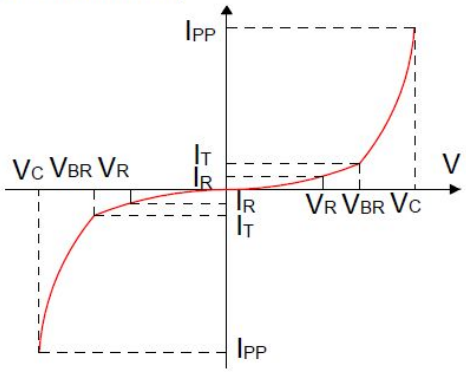


FIG.2:V- I curve characteristics (Bi-directional)



- **Typical Performance Characteristics**

Figure 1: Peak Pulse Power Rating Curve

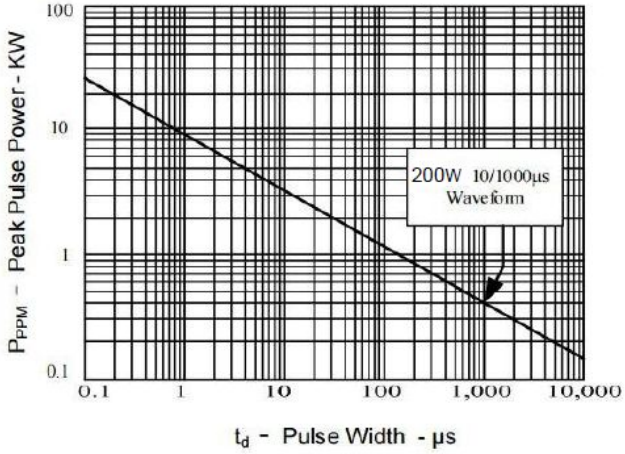


Figure 2: Pulse Derating Curve

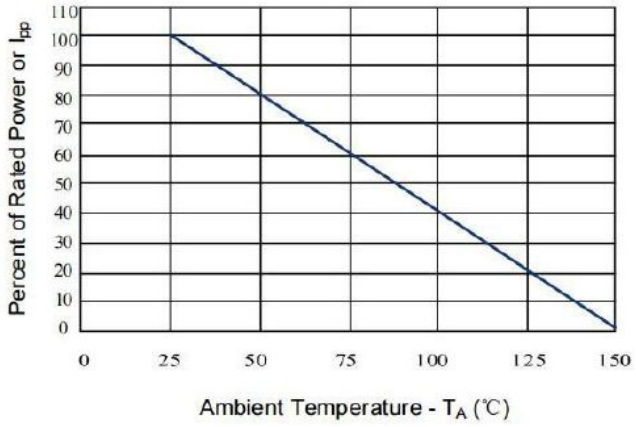


Figure 3: Pulse Waveform

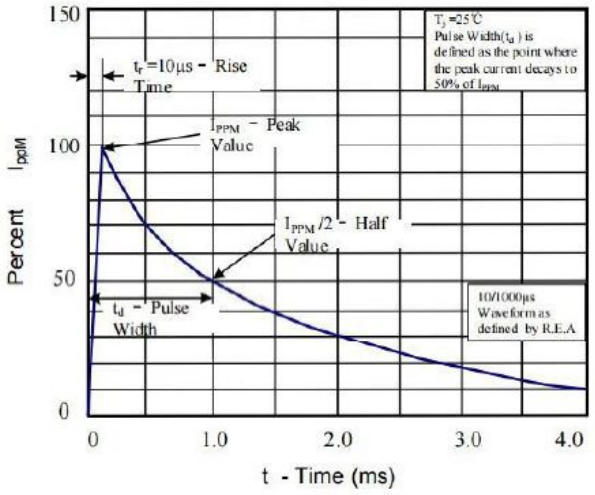


Figure 4: Typical Junction Capacitance

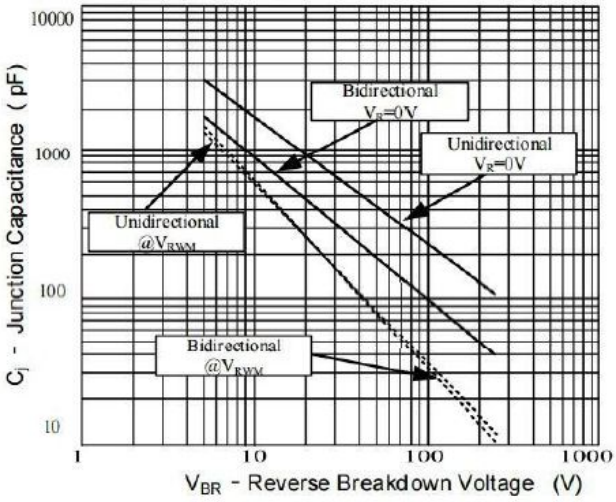


Figure 5: Steady State Power Dissipation Derating Curve

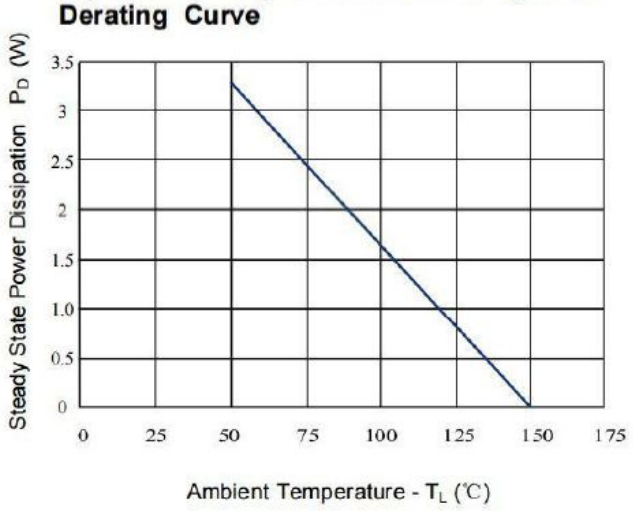
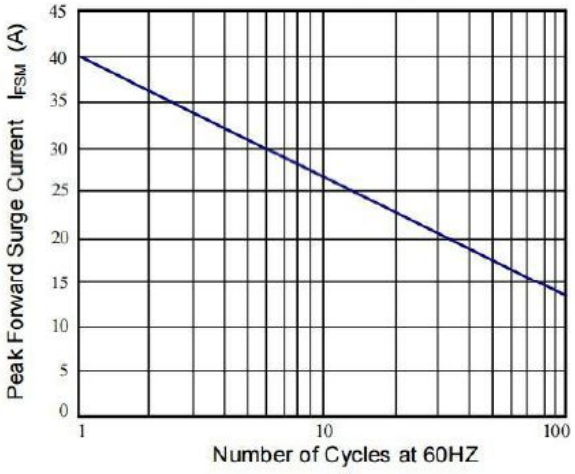


Figure 6: Maximum Non-Repetitive Forward Surge Current Only Unidirectional



- **Package Information**

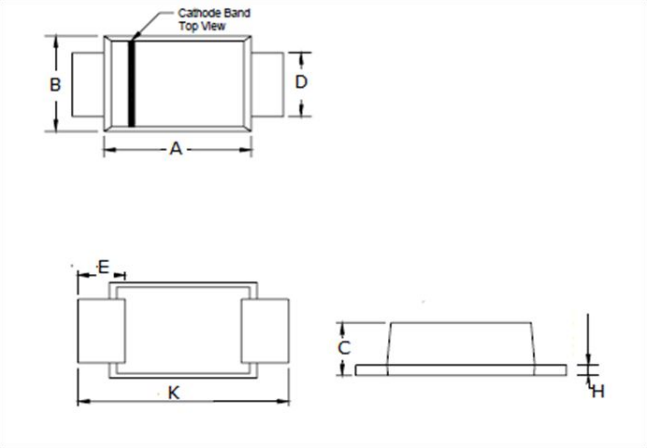
Ordering Information

Device	Package	Qty per Reel	Reel Size
SSCTXXX4XD1	SOD-123FL	3000	7 Inch

Mechanical Data

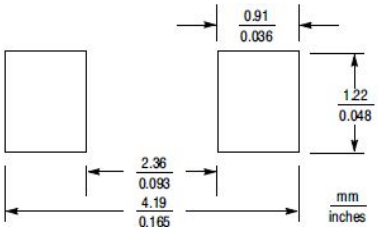
Case:SOD-123FL

Case Material: Molded Plastic. UL Flammability



Dim	Millimeters	
	Min	Max
A	2.5	3.0
B	1.5	1.9
C	0.9	1.1
D	0.70	1.1
E	0.45	0.95
H	0.05	0.26
K	3.40	4.0

Recommended Pad outline



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