

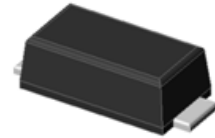
## 200W,10 - 190V Transient Voltage Suppressors

### Features

- Very fast response time
- Glass passivated junction
- Moisture sensitivity: level 1, per J-STD-020
- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21 definition
- 200 W peak pulse power capability with a 10/1000  $\mu$ s waveform



**RoHS**  
COMPLIANT



eSGA (SOD-123FL)

### Applications

- SMPS
- Adapters
- Monitor

### Absolute Maximum Ratings ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Ratings	Unit
Peak power dissipation with a 10/1000us waveform	$P_{PPM}$	200	W
Peak pulse current with a 10/1000us waveform	$I_{PPM}$	See Next Table	A
Power dissipation, on infinite heat sink at $T_L=75^\circ\text{C}$	$P_D$	3.75	W
Peak forward surge current, 8.3ms single half-sine wave	$I_{FSM}$	30	A
Typical Thermal Resistance , Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Case	$R_{\theta JC}$	20	$^\circ\text{C/W}$
Typical Thermal Resistance , Junction to Lead	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$



# F2TVS10A thru F2TVS190A

GOOD-ARK Electronics

## Electrical Characteristics (TA = 25 °C unless otherwise noted)

Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I <sub>T</sub> (mA)	Stand off Voltage V <sub>WM</sub> (Volts)	Maximum reverse leakage at V <sub>WM</sub> I <sub>D</sub> (μA)	Maximum Peak Pulse Current I <sub>ppM</sub> (A)	Maximum Clamping Voltage at I <sub>ppM</sub> V <sub>C</sub> (Volts)
		Min	Max					
F2TVS10A	10A	11.1	12.3	1.0	10	5.0	11.8	17.0
F2TVS11A	11A	12.2	13.5	1.0	11	5.0	11.0	18.2
F2TVS12A	12A	13.3	14.7	1.0	12	5.0	10.1	19.9
F2TVS13A	13A	14.4	15.9	1.0	13	5.0	9.30	21.5
F2TVS14A	14A	15.6	17.2	1.0	14	5.0	8.62	23.2
F2TVS15A	15A	16.7	18.5	1.0	15	5.0	8.20	24.4
F2TVS16A	16A	17.8	19.7	1.0	16	5.0	7.69	26.0
F2TVS17A	17A	18.9	20.9	1.0	17	5.0	7.25	27.6
F2TVS18A	18A	20.0	22.1	1.0	18	5.0	6.85	29.2
F2TVS20A	20A	22.2	24.5	1.0	20	5.0	6.17	32.4
F2TVS22A	22A	24.4	26.9	1.0	22	5.0	5.63	35.5
F2TVS24A	24A	26.7	29.5	1.0	24	5.0	5.14	38.9
F2TVS26A	26A	28.9	31.9	1.0	26	5.0	4.75	42.1
F2TVS28A	28A	31.1	34.4	1.0	28	5.0	4.41	45.4
F2TVS30A	30A	33.3	36.8	1.0	30	5.0	4.13	48.4
F2TVS33A	33A	36.7	40.6	1.0	33	5.0	3.75	53.3
F2TVS36A	36A	40.0	44.4	1.0	36	5.0	3.44	58.1
F2TVS40A	40A	44.4	49.1	1.0	40	5.0	3.10	64.5
F2TVS43A	43A	47.8	52.8	1.0	43	5.0	2.88	69.4
F2TVS45A	45A	50.0	55.3	1.0	45	5.0	2.75	72.7
F2TVS48A	48A	53.3	58.9	1.0	48	5.0	2.58	77.4
F2TVS51A	51A	56.7	62.7	1.0	51	5.0	2.43	82.4
F2TVS54A	54A	60.0	66.3	1.0	54	5.0	2.30	87.1
F2TVS58A	58A	64.4	71.2	1.0	58	5.0	2.14	93.6
F2TVS60A	60A	66.7	73.7	1.0	60	5.0	2.07	96.8
F2TVS64A	64A	71.1	78.6	1.0	64	5.0	1.94	103
F2TVS70A	70A	77.8	86.0	1.0	70	5.0	1.77	113
F2TVS75A	75A	83.3	92.1	1.0	75	5.0	1.65	121
F2TVS78A	78A	86.7	95.8	1.0	78	5.0	1.59	126
F2TVS80A	80A	88.8	97.6	1.0	80	5.0	1.55	129
F2TVS85A	85A	94.4	104	1.0	85	5.0	1.46	137
F2TVS90A	90A	100	111	1.0	90	5.0	1.37	146
F2TVS100A	100A	111	123	1.0	100	5.0	1.23	162
F2TVS110A	110A	122	135	1.0	110	5.0	1.13	177

## Electrical Characteristics (TA = 25 °C unless otherwise noted)

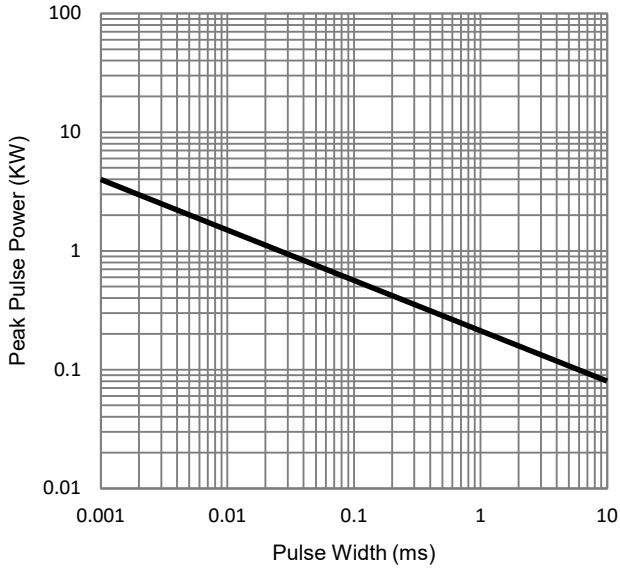
Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I <sub>T</sub> (mA)	Stand off Voltage V <sub>WM</sub> (Volts)	Maximum reverse leakage at V <sub>WM</sub> I <sub>D</sub> (μA)	Maximum Peak Pulse Current I <sub>ppM</sub> (A)	Maximum Clamping Voltage at I <sub>ppM</sub> V <sub>C</sub> (Volts)
		Min	Max					
F2TVS120A	120A	133	147	1.0	120	5.0	1.04	193
F2TVS130A	130A	144	159	1.0	130	5.0	0.96	209
F2TVS140A	140A	155	171	1.0	140	5.0	0.89	224
F2TVS150A	150A	167	185	1.0	150	5.0	0.82	243
F2TVS160A	160A	178	197	1.0	160	5.0	0.77	259
F2TVS170A	170A	189	209	1.0	170	5.0	0.73	275
F2TVS180A	180A	201	222	1.0	180	5.0	0.69	292
F2TVS190A	190A	211	232	1.0	190	5.0	0.62	324

Note:

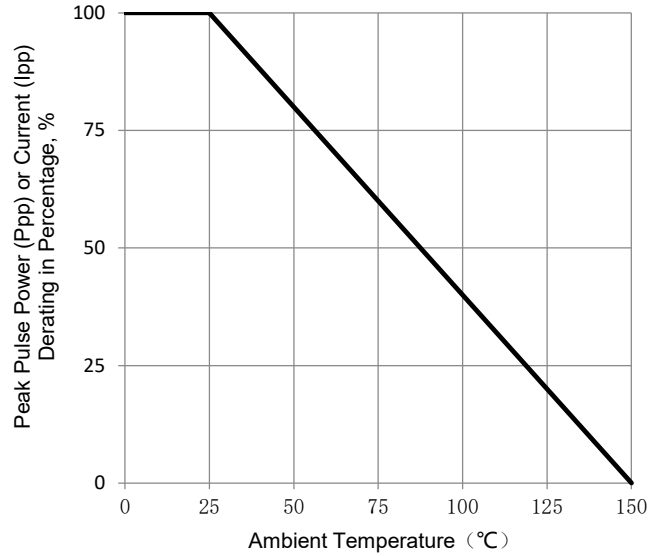
1. The thermal resistance from junction to ambient, case or lead, mounted on P.C.B with 5×5mm copper pads

## Ratings and Characteristics Curves

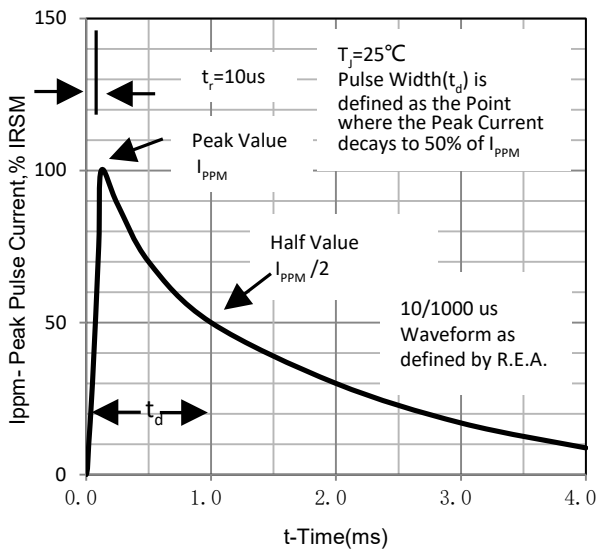
( $T_A = 25^\circ\text{C}$  unless otherwise noted)



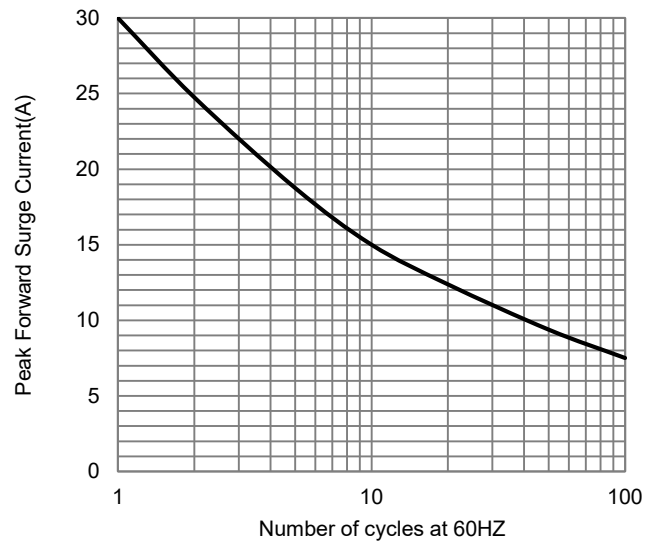
**Fig.1 - Peak Pulse Power Derating Curve**



**Fig.2 - Pulse Power vs Ambient Temperature**



**Fig.3 - Pulse Waveform**

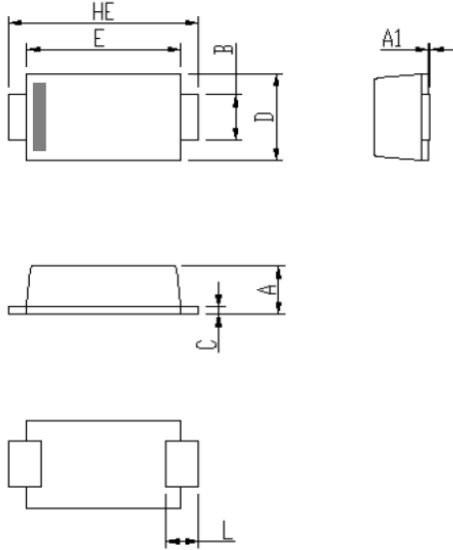


**Fig.4 - Maximum Non-Repetitive Surge Current**

## Package Outline Dimensions

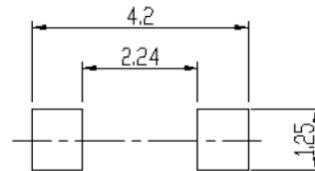
in inches (millimeters)

### eSGA (SOD-123FL)



DIM	Unit: mm		Unit: inch	
	MIN	MAX	MIN	MAX
A	0.9	1.08	0.035	0.043
A1	0	0.1	0.000	0.004
B	0.85	1.05	0.033	0.041
C	0.1	0.25	0.004	0.010
D	1.7	2	0.067	0.079
E	2.9	3.1	0.114	0.122
L	0.43	0.83	0.017	0.033
HE	3.5	3.9	0.138	0.154

Soldering footprint



## Revision History

Document Version	Date of release	Description of changes
Rev.A	2021.06.15	Released Datasheet
Rev.B	2023.10.11	Modify document format



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