

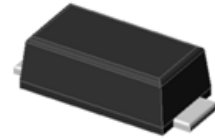
400W,10 - 180V Transient Voltage Suppressors

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
- 400 W peak pulse power capability with a 10/1000 μ 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}	400	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	$^\circ\text{C}$



F4TVS10A thru F4TVS180A

GOOD-ARK Electronics

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

Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		Min	Max					
F4TVS10A	AX	11.1	12.3	1.0	10	1.0	23.5	17.0
F4TVS11A	AZ	12.2	13.5	1.0	11	1.0	22.0	18.2
F4TVS12A	BE	13.3	14.7	1.0	12	1.0	20.1	19.9
F4TVS13A	BG	14.4	15.9	1.0	13	1.0	18.6	21.5
F4TVS14A	BK	15.6	17.2	1.0	14	1.0	17.2	23.2
F4TVS15A	BM	16.7	18.5	1.0	15	1.0	16.4	24.4
F4TVS16A	BP	17.8	19.7	1.0	16	1.0	15.4	26.0
F4TVS17A	BR	18.9	20.9	1.0	17	1.0	14.5	27.6
F4TVS18A	BT	20.0	22.1	1.0	18	1.0	13.7	29.2
F4TVS20A	BV	22.2	24.5	1.0	20	1.0	12.3	32.4
F4TVS22A	BX	24.4	26.9	1.0	22	1.0	11.3	35.5
F4TVS24A	BZ	26.7	29.5	1.0	24	1.0	10.3	38.9
F4TVS26A	CE	28.9	31.9	1.0	26	1.0	9.5	42.1
F4TVS28A	CG	31.1	34.4	1.0	28	1.0	8.8	45.4
F4TVS30A	CK	33.3	36.8	1.0	30	1.0	8.3	48.4
F4TVS33A	CM	36.7	40.6	1.0	33	1.0	7.5	53.3
F4TVS36A	CP	40.0	44.4	1.0	36	1.0	6.9	58.1
F4TVS40A	CR	44.4	49.1	1.0	40	1.0	6.2	64.5
F4TVS43A	CT	47.8	52.8	1.0	43	1.0	5.8	69.4
F4TVS45A	CV	50.0	55.3	1.0	45	1.0	5.5	72.7
F4TVS48A	CX	53.3	58.9	1.0	48	1.0	5.2	77.4
F4TVS51A	CZ	56.7	62.7	1.0	51	1.0	4.9	82.4
F4TVS54A	RE	60.0	66.3	1.0	54	1.0	4.6	87.1
F4TVS58A	RG	64.4	71.2	1.0	58	1.0	4.3	93.6
F4TVS60A	RK	66.7	73.7	1.0	60	1.0	4.1	96.8
F4TVS64A	RM	71.1	78.6	1.0	64	1.0	3.9	103
F4TVS70A	RP	77.8	86.0	1.0	70	1.0	3.5	113
F4TVS75A	RR	83.3	92.1	1.0	75	1.0	3.3	121
F4TVS78A	RT	86.7	95.8	1.0	78	1.0	3.2	126
F4TVS85A	RV	94.4	104	1.0	85	1.0	2.2	137
F4TVS90A	RX	100	111	1.0	90	1.0	2.1	146
F4TVS100A	RZ	111	123	1.0	100	1.0	1.9	162
F4TVS110A	SE	122	135	1.0	110	1.0	1.7	177
F4TVS120A	SG	133	147	1.0	120	1.0	1.6	193

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

Part Number	Marking	Breakdown Voltage VBR (Volts)		Test Current I _T (mA)	Stand off Voltage V _{WM} (Volts)	Maximum reverse leakage at V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppM} (A)	Maximum Clamping Voltage at I _{ppM} V _C (Volts)
		Min	Max					
F4TVS130A	SK	144	159	1.0	130	1.0	1.4	209
F4TVS150A	SM	167	185	1.0	150	1.0	1.2	243
F4TVS160A	SP	178	197	1.0	160	1.0	1.2	259
F4TVS170A	SR	189	209	1.0	170	1.0	1.09	275
F4TVS180A	ST	201	222	1.0	180	1.0	1.4	292

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)

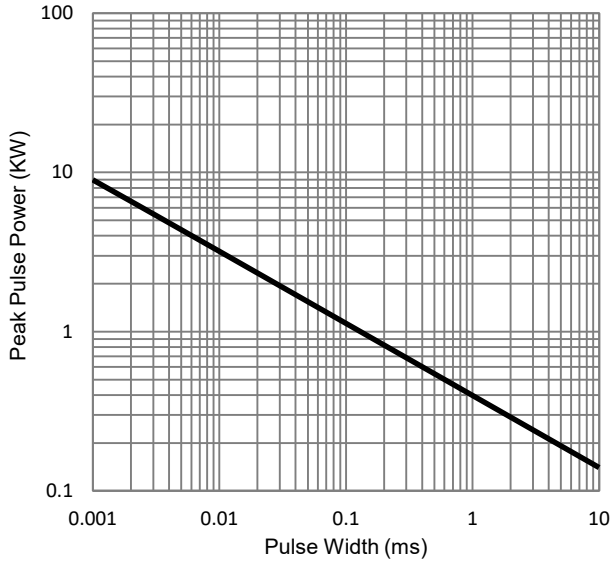


Fig.1 - Peak Pulse Power Derating Curve

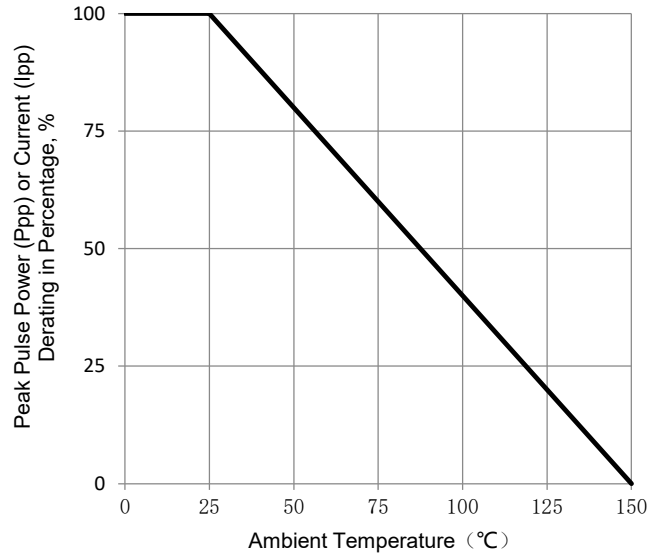


Fig.2 - Pulse Power vs Ambient Temperature

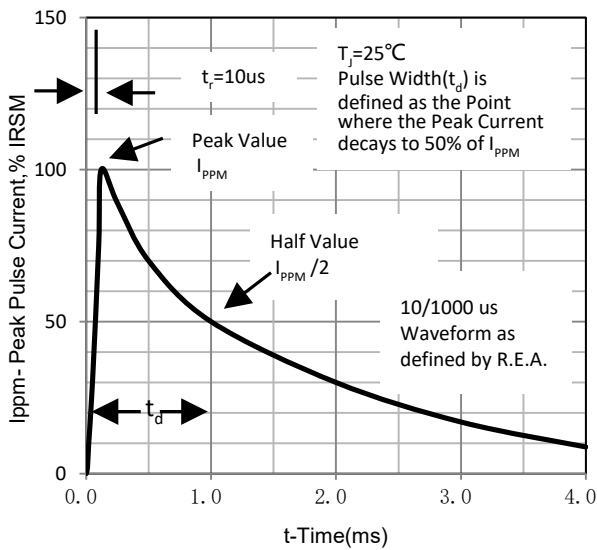


Fig.3 - Pulse Waveform

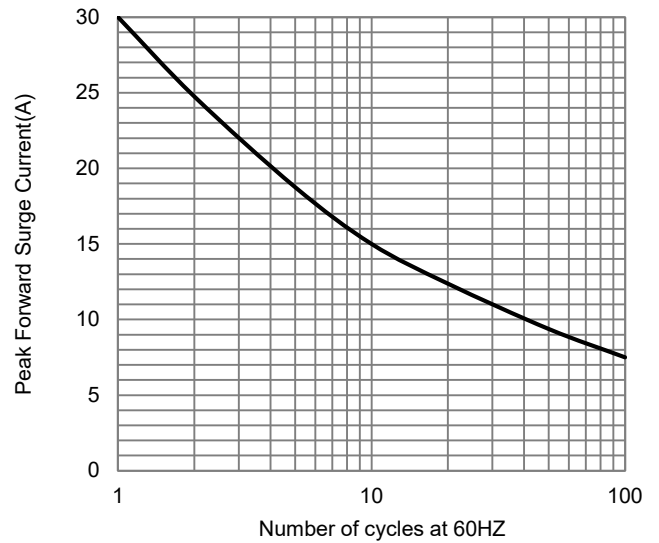
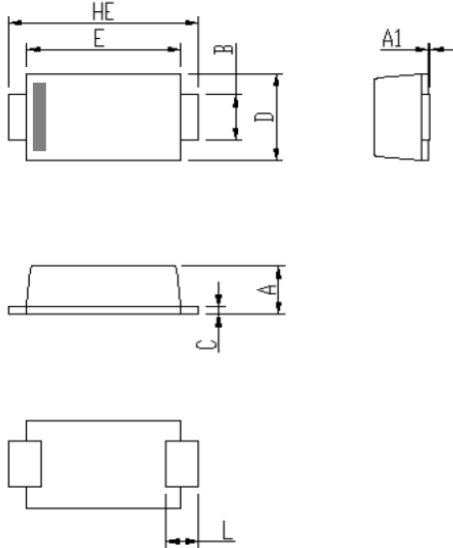


Fig.4 - Maximum Non-Repetitive Surge Current

Package Outline Dimensions

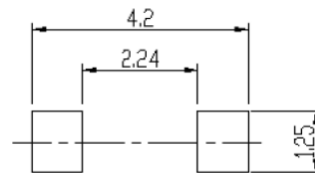
in inches (millimeters)

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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