

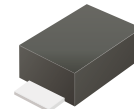
TV04WF5V0JB-HF Thru. TV04WF600JB-HF

Working Voltage: 5 to 60 V

Peak Pulse Power: 400 W

RoHS Device

Halogen Free



Features

- Glass passivated chip.
- 400W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01%
- Low leakage.
- Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.

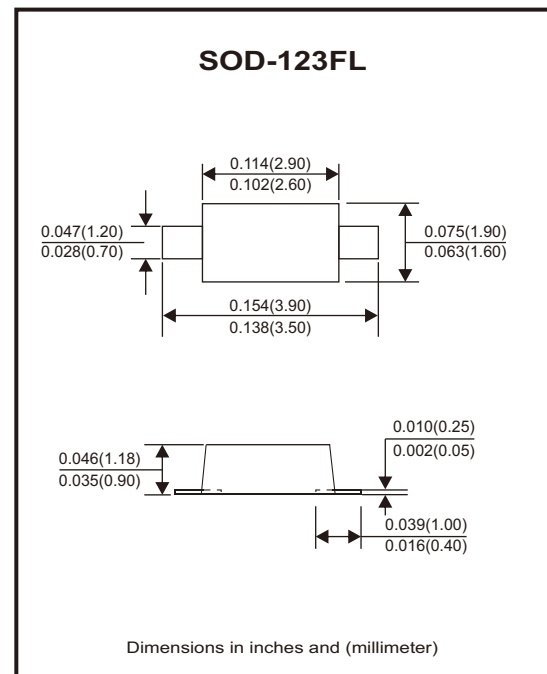
Mechanical data

- Case: SOD-123FL, molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminal: Solderable per MIL-STD-750, method 2026.
- Mounting position: Any.

Circuit Diagram



Bi-directional



Maximum Rating (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform (Note 1)	P _{PP}	400	W
Peak pulse current with a 10/1000 μ s waveform (Note 1)	I _{PP}	See next table	A
Power dissipation on infinite heatsink at T _L =50°C	P _D	1	W
Peak forward surge current, 8.3ms single half sine-wave (Note 2)	I _{FSM}	30	A
Max. instantaneous forward voltage at 25A for unidirectional only	V _F	3.5	V
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150	°C

Notes: 1. Non-repetitive current pulse per Fig.5 and derated above TA=25°C per Fig.1.

2. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

Electrical Characteristics (at TA=25°C unless otherwise specified)

Part No.	Device Marking Code	Breakdown Voltage VBR @ IT			Maximum Reverse Leakage @VRWM IR (μA)	Working Peak Reverse Voltage VRWM (V)	Maximum Reverse Surge Current IPP (A)	Maximum Clamping Voltage @IPP VC (V)
	Bi	Min. (V)	Max. (V)	IT (mA)				
TV04WF5V0JB-HF	AE	6.40	7.00	10	800	5.0	40.1	9.2
TV04WF6V0JB-HF	AG	6.67	7.37	10	800	6.0	35.9	10.3
TV04WF6V5JB-HF	AK	7.22	7.98	10	500	6.5	33.1	11.2
TV04WF7V0JB-HF	AM	7.78	8.60	10	200	7.0	30.9	12.0
TV04WF7V5JB-HF	AP	8.33	9.21	1	100	7.5	28.7	12.9
TV04WF8V0JB-HF	AR	8.89	9.83	1	50	8.0	27.2	13.6
TV04WF8V5JB-HF	AT	9.44	10.40	1	20	8.5	25.7	14.4
TV04WF9V0JB-HF	AV	10.00	11.10	1	10	9.0	24.1	15.4
TV04WF100JB-HF	AX	11.10	12.30	1	5	10.0	23.5	17.0
TV04WF110JB-HF	AZ	12.20	13.50	1	1	11.0	22.0	18.2
TV04WF120JB-HF	BE	13.30	14.70	1	1	12.0	20.1	19.9
TV04WF130JB-HF	BG	14.40	15.90	1	1	13.0	18.6	21.5
TV04WF140JB-HF	BK	15.60	17.20	1	1	14.0	17.2	23.2
TV04WF150JB-HF	BM	16.70	18.50	1	1	15.0	16.4	24.4
TV04WF160JB-HF	BP	17.80	19.70	1	1	16.0	15.4	26.0
TV04WF170JB-HF	BR	18.90	20.90	1	1	17.0	14.5	27.6
TV04WF180JB-HF	BT	20.00	22.10	1	1	18.0	13.7	29.2
TV04WF200JB-HF	BV	22.20	24.50	1	1	20.0	12.3	32.4
TV04WF220JB-HF	BX	24.40	26.90	1	1	22.0	11.3	35.5
TV04WF240JB-HF	BZ	26.70	29.50	1	1	24.0	10.3	38.9
TV04WF260JB-HF	CE	28.90	31.90	1	1	26.0	9.5	42.1
TV04WF280JB-HF	CG	31.10	34.40	1	1	28.0	8.8	45.4
TV04WF300JB-HF	CK	33.30	36.80	1	1	30.0	8.3	48.4
TV04WF330JB-HF	CM	36.70	40.60	1	1	33.0	7.5	53.3
TV04WF360JB-HF	CP	40.00	44.20	1	1	36.0	6.9	58.1
TV04WF400JB-HF	CR	44.40	49.10	1	1	40.0	6.2	64.5
TV04WF430JB-HF	CT	47.80	52.80	1	1	43.0	5.8	69.4
TV04WF450JB-HF	CV	50.00	55.30	1	1	45.0	5.5	72.7
TV04WF480JB-HF	CX	53.30	58.90	1	1	48.0	5.2	77.4
TV04WF510JB-HF	CZ	56.70	62.70	1	1	51.0	4.9	82.4

Electrical Characteristics (at TA=25°C unless otherwise specified)

Part No.	Device Marking Code	Breakdown Voltage VBR @ IT			Maximum Reverse Leakage @VRWM IR (μA)	Working Peak Reverse Voltage VRWM (V)	Maximum Reverse Surge Current IPP (A)	Maximum Clamping Voltage @IPP VC (V)
	Bi	Min. (V)	Max. (V)	IT (mA)				
TV04WF540JB-HF	DE	60.00	66.30	1	1	54.0	4.6	87.1
TV04WF580JB-HF	DG	64.40	71.20	1	1	58.0	4.3	93.6
TV04WF600JB-HF	DK	66.70	73.70	1	1	60.0	4.1	96.8

Typical Rating and Characteristic Curves (TV04WFxxxJB-HF Series)

Fig.1 - Pulse Derating Curve

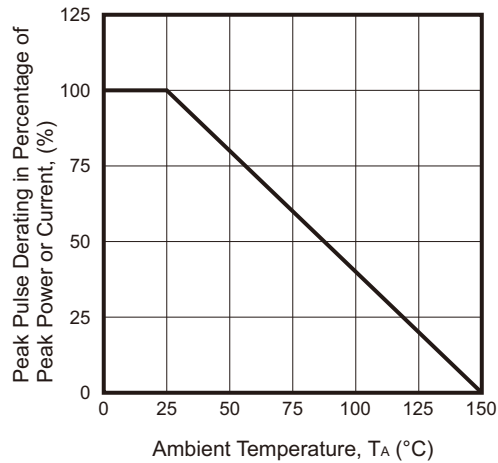


Fig.2 - Maximum Non-Repetitive Surge Current

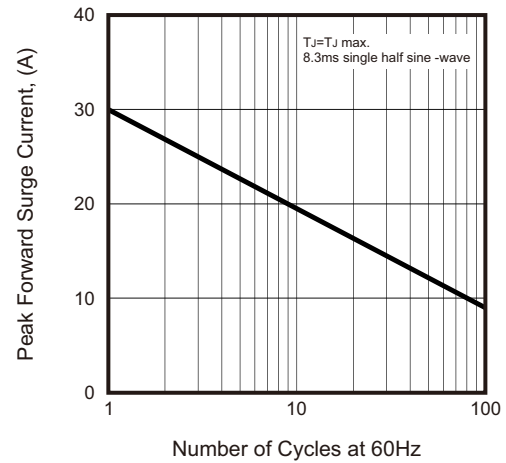


Fig.3 - Typical Junction Capacitance

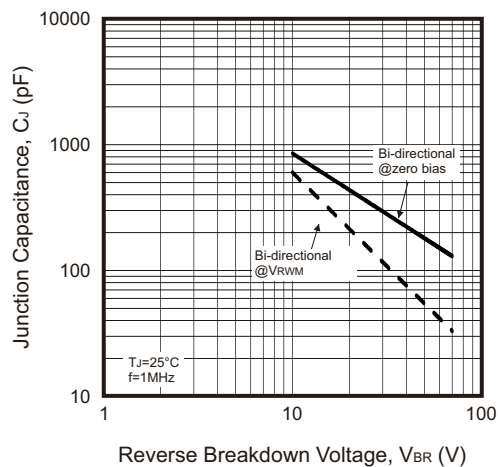


Fig.4 - Peak Pulse Power Rating Curve

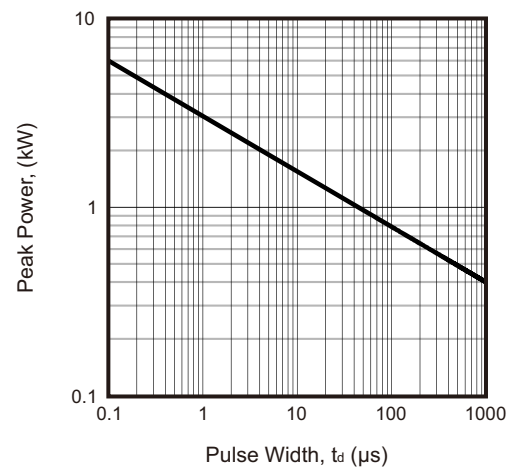
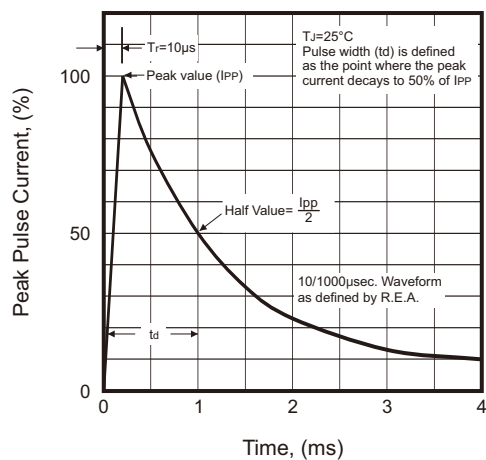
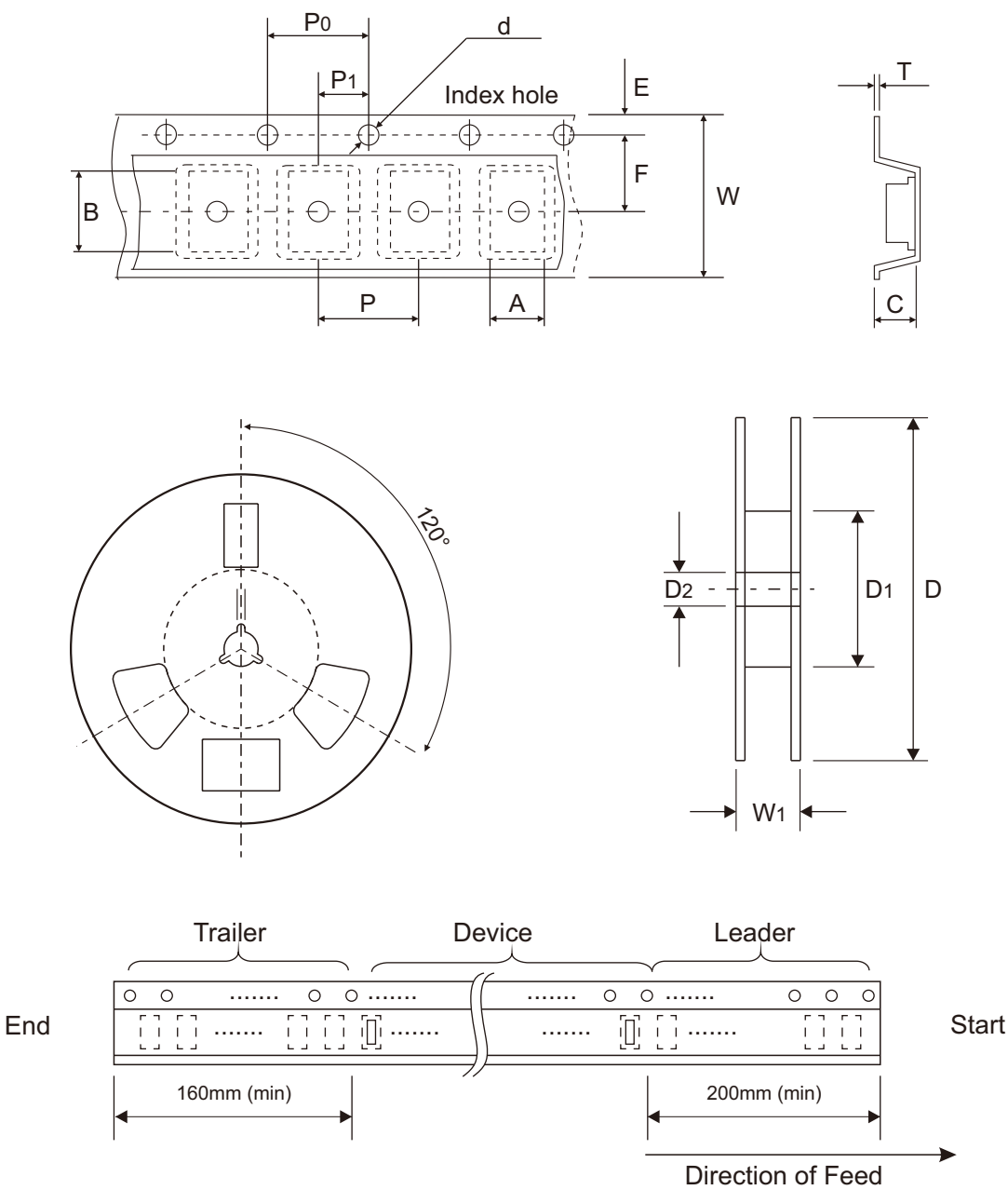


Fig.5 - Pulse Waveform



Reel Taping Specification



SOD-123FL	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.20 ± 0.10	3.90 ± 0.10	1.37 ± 0.10	1.55 ± 0.10	178.00 ± 0.50	60.00 ± 1.00	13.30 ± 0.20
	(inch)	0.087 ± 0.004	0.154 ± 0.004	0.054 ± 0.004	0.061 ± 0.004	7.008 ± 0.020	2.362 ± 0.039	0.524 ± 0.008

SOD-123FL	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	0.22 ± 0.05	8.00 ± 0.10	11.50 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.004	0.009 ± 0.002	0.315 ± 0.004	0.453 ± 0.020

Marking Code

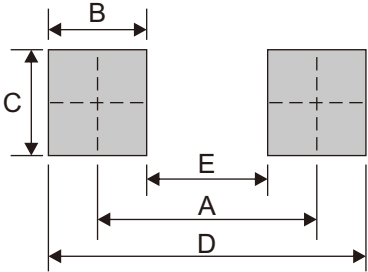
Part Number	Marking Code
TV04WFxxxJB-HF	See Page.2~3



xx = Marking code (See Page.2~3)

Suggested P.C.B. PAD Layout

SIZE	SOD-123FL	
	(mm)	(inch)
A	2.80	0.110
B	1.30	0.051
C	1.40	0.055
D	4.20	0.165
E	1.40	0.055



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOD-123FL	3,000	7