

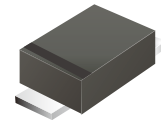
CTVTS02xxxE(U)-HF Series

Working Peak Reverse Voltage: 5 to 75 V

Peak Pulse Power: 200 W

RoHS Device

Halogen Free

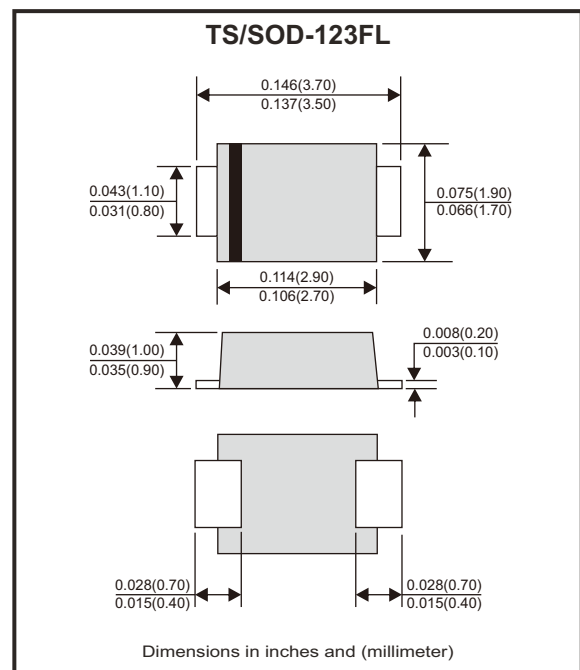


Features

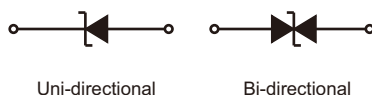
- Glass passivated chip.
- 200W peak pulse power capability with a 10/1000 μ s waveform, repetition rate (duty cycles): 0.01%.
- Low leakage.
- Uni and Bidirectional unit.
- Excellent clamping capability.
- Very fast response time.
- IEC 61000-4-2 (ESD) $\pm$ 30kV (air/contact)
- High temperature soldering:
260°C/40 seconds at terminals.

Mechanical data

- Case: TS/SOD-123FL, molded plastic.
- Terminal: Solderable per MIL-STD-750, method 2026.
- Polarity: Color band denotes cathode end except bipolar.
- Mounting position: Any.



Circuit Diagram



Maximum Ratings (T_A=25°C unless otherwise noted)

Characteristics	Symbol	Value	Units
Peak power dissipation with a 10/1000 μ s waveform (Note 1)	P _{PP}	200	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	1.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (Note 2)	I _{FSM}	20	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 T_a=25°C per Fig.1 .

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

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

Part No	Breakdown voltage V _{BR} @ I _T			Maximum reverse leakage @V _{RWM} I _R (μA)	Working peak reverse voltage V _{RWM} (V)	Maximum reverse surge current I _{PP} (A)	Maximum clamping voltage @I _{PP} V _C (V)	Marking code	
	Min(V)	Max(V)	I _T (mA)					Uni	Bi
CTVTS025V0E(U)-HF	6.40	7.00	10	400	5.0	21.74	9.2	FE	KE
CTVTS026V0E(U)-HF	6.67	7.37	10	400	6.0	19.42	10.3	FG	KG
CTVTS026V5E(U)-HF	7.22	7.98	10	250	6.5	17.86	11.2	FK	KK
CTVTS027V0E(U)-HF	7.78	8.60	10	100	7.0	16.67	12.0	FM	KM
CTVTS027V5E(U)-HF	8.33	9.21	1	50	7.5	15.50	12.9	FP	KP
CTVTS028V0E(U)-HF	8.89	9.83	1	25	8.0	14.71	13.6	FR	KR
CTVTS028V5E(U)-HF	9.44	10.4	1	10	8.5	13.89	14.4	FT	KT
CTVTS029V0E(U)-HF	10.0	11.1	1	5	9.0	12.99	15.4	FV	KV
CTVTS0210VE(U)-HF	11.1	12.3	1	2.5	10	11.76	17.0	FX	KX
CTVTS0211VE(U)-HF	12.2	13.5	1	2.5	11	10.99	18.2	FZ	KZ
CTVTS0212VE(U)-HF	13.3	14.7	1	2.5	12	10.05	19.9	HE	LE
CTVTS0213VE(U)-HF	14.4	15.9	1	1	13	9.30	21.5	HG	LG
CTVTS0214VE(U)-HF	15.6	17.2	1	1	14	8.62	23.2	HK	LK
CTVTS0215VE(U)-HF	16.7	18.5	1	1	15	8.20	24.4	HM	LM
CTVTS0216VE(U)-HF	17.8	19.7	1	1	16	7.69	26.0	HP	LP
CTVTS0217VE(U)-HF	18.9	20.9	1	1	17	7.25	27.6	HR	LR
CTVTS0218VE(U)-HF	20.0	22.1	1	1	18	6.85	29.2	HT	LT
CTVTS0220VE(U)-HF	22.2	24.5	1	1	20	6.17	32.4	HV	LV
CTVTS0222VE(U)-HF	24.4	26.9	1	1	22	5.63	35.5	HX	LX
CTVTS0224VE(U)-HF	26.7	29.5	1	1	24	5.14	38.9	HZ	LZ
CTVTS0226VE(U)-HF	28.9	31.9	1	1	26	4.75	42.1	JE	ME
CTVTS0228VE(U)-HF	31.1	34.4	1	1	28	4.41	45.4	JG	MG
CTVTS0230VE(U)-HF	33.3	36.8	1	1	30	4.13	48.4	JK	MK
CTVTS0233VE(U)-HF	36.7	40.6	1	1	33	3.75	53.3	JM	MM
CTVTS0236VE(U)-HF	40.0	44.2	1	1	36	3.44	58.1	JP	MP
CTVTS0240VE(U)-HF	44.4	49.1	1	1	40	3.10	64.5	JR	MR
CTVTS0243VE(U)-HF	47.8	52.8	1	1	43	2.88	69.4	JT	MT
CTVTS0245VE(U)-HF	50.0	55.3	1	1	45	2.75	72.7	JV	MV
CTVTS0248VE(U)-HF	53.3	58.9	1	1	48	2.58	77.4	JX	MX
CTVTS0251VE(U)-HF	56.7	62.7	1	1	51	2.43	82.4	JZ	MZ
CTVTS0254VE(U)-HF	60.0	66.3	1	1	54	2.30	87.1	XE	NE
CTVTS0258VE(U)-HF	64.4	71.2	1	1	58	2.14	93.6	XG	NG
CTVTS0260VE(U)-HF	66.7	73.7	1	1	60	2.07	96.8	XK	NK
CTVTS0264VEU-HF	71.1	78.6	1	1	64	1.94	103	XM	
CTVTS0270VEU-HF	77.8	86.0	1	1	70	1.77	113	XP	
CTVTS0275VEU-HF	83.3	92.1	1	1	75	1.65	121	XR	

Notes: 1. For Bi-directional devices having V_R of 10 volts and under, the I_R limit is double.

2. For Uni-directional devices, use suffix U.

Typical Rating and Characteristic Curves (CTVTS02xxxE(U)-HF)

Fig.1 - Pulse Derating Curve

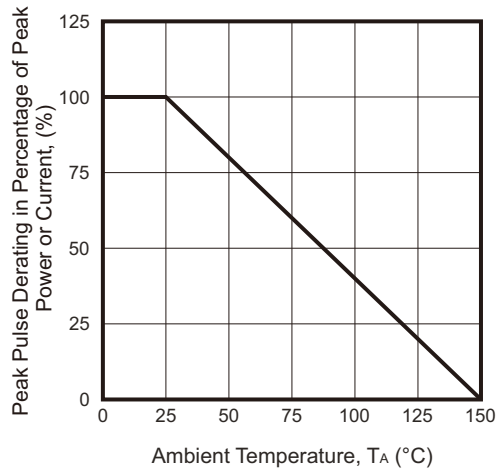


Fig.2 - Max. Non-repetitive Surge Current

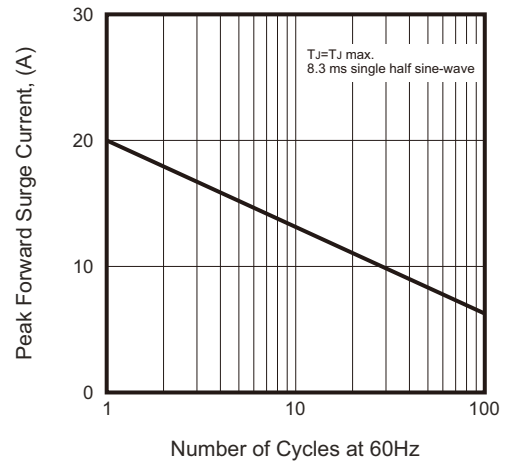


Fig.3 - Typical Junction Capacitance

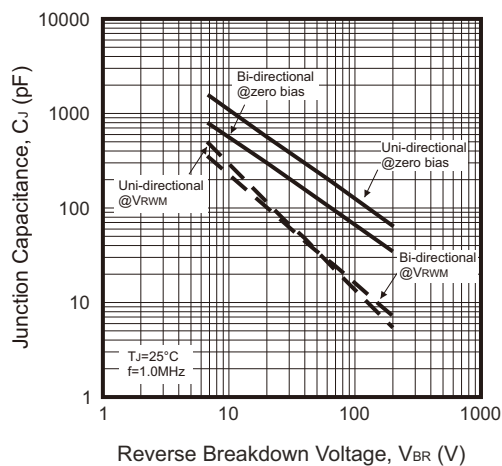


Fig.4 - Peak Pulse Power Rating Curve

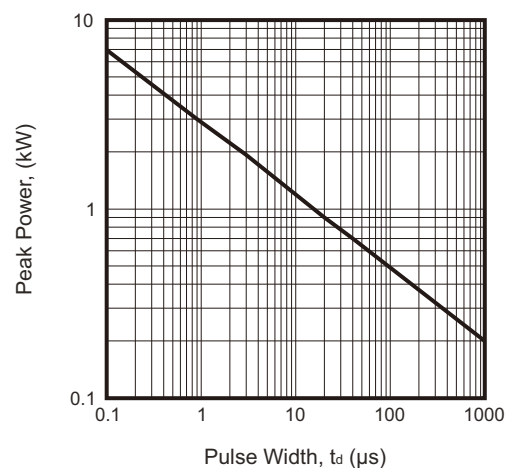
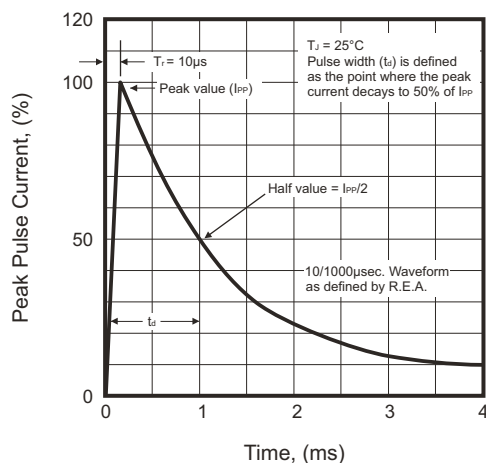
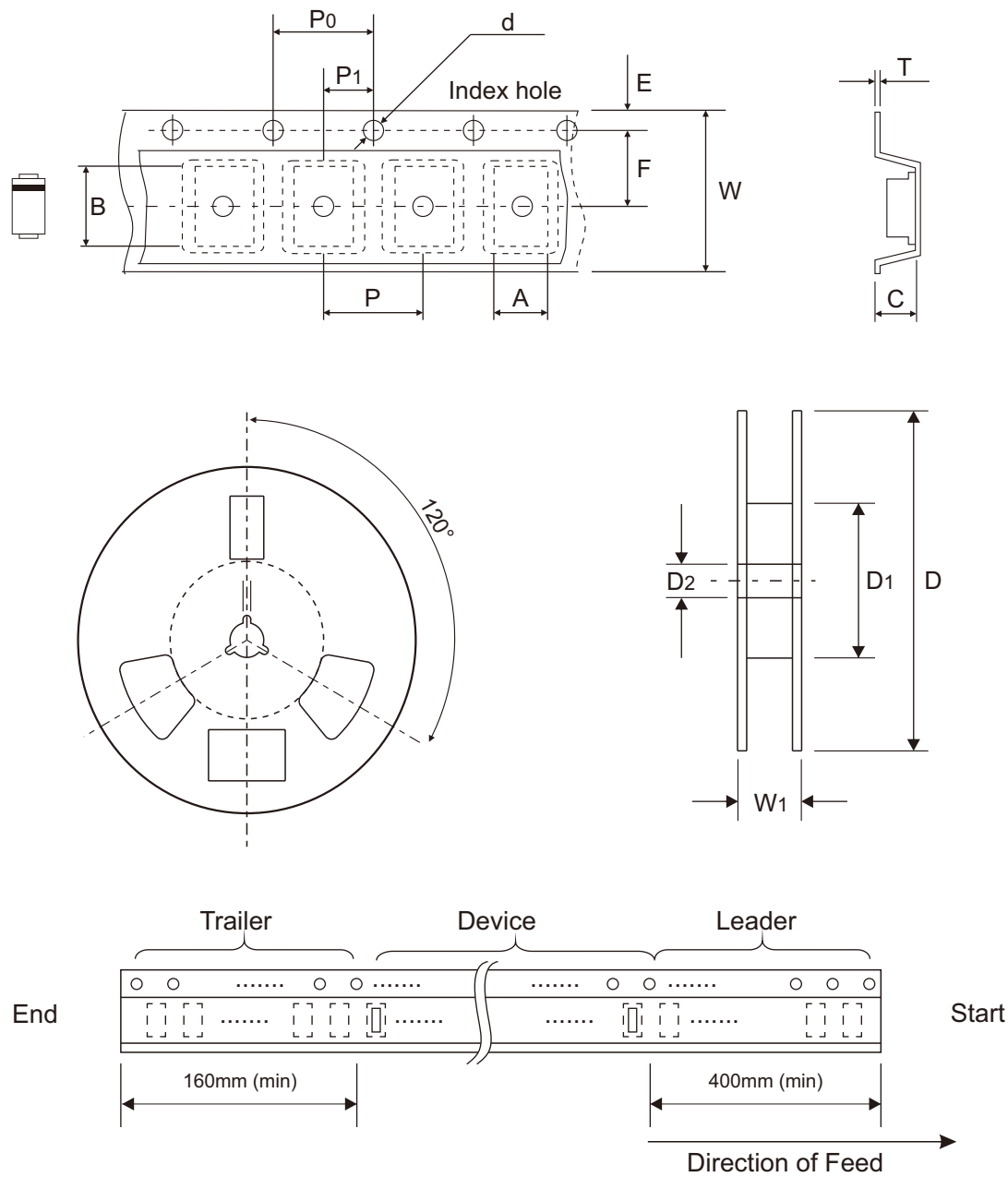


Fig.5 - Pulse Waveform



Reel Taping Specification



TS/ SOD-123FL	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	2.05 ± 0.10	3.85 ± 0.10	1.25 ± 0.10	1.55 ± 0.05	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.50
	(inch)	0.081 ± 0.004	0.152 ± 0.004	0.049 ± 0.004	0.061 ± 0.002	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.020

TS/ SOD-123FL	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	0.20 ± 0.05	8.00 ± 0.30	12.00 ± 0.50
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.008 ± 0.002	0.315 ± 0.012	0.472 ± 0.020

Marking Code

Part Number	Marking Code
CTVTS02xxxE(U)-HF	See Page 2

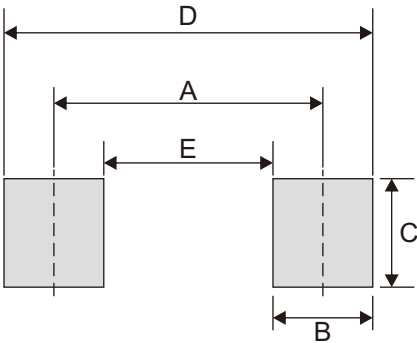


xx = Product type marking code (See Page 2)

┃ = Cathode band

Suggested P.C.B. PAD Layout

SIZE	TS/SOD-123FL	
	(mm)	(inch)
A	3.10	0.122
B	1.15	0.045
C	1.25	0.048
D	4.25	0.167
E	1.95	0.077



Standard Packaging

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