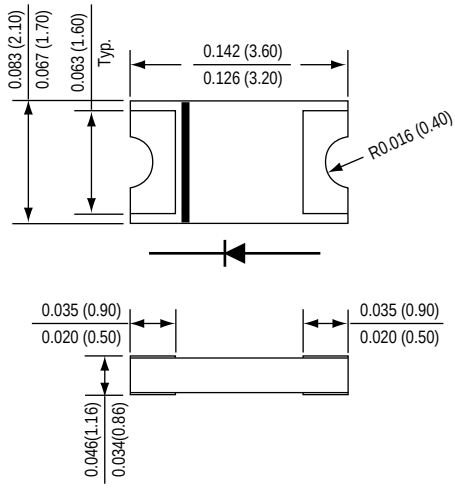
STCDH SERIES

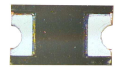
SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Working Voltage - 5.0 ~ 190 Volts Peak Pulse Power - 200 Watts

1206



*Dimensions in inches and (millimeters)



FEATURES

* Halogen-free type
* Compliance to RoHS product
* Leadless chip form, no lead damage
* Glass passivated chip
* 200 watts peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle) : 0.01%
* Low leakage
* Uni and bidirectional unit
* Excellent clamping capability
* Very fast response time
* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

MECHANICAL DATA

Case : Packed with FRP substrate and epoxy underfilled
Terminals : Pure Tin plated (Lead-Free), solderable per MIL-STD-750, Method 2026.
Polarity : Color band denotes positive end (cathode) except for bidirectional types
Marking : Cathode Band, Laser marking
Weight : 0.012 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak power dissipation with a 10/1000us waveform (Note 1)	P_{PPM}	200	Watts
Peak power dissipation with a 8/20us waveform (Note 1)	P_{PPM}	1000	Watts
Peak pulse current with a 10/1000uS waveform (Note 1)	I_{PPM}	See Next Table	Amps
Power dissipation on infinite heatsink at T_L = 75℃	P_D	0.4	Watts
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (Note 2)	I_{FSM}	20	Amps
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	Volts
Operating junction and Storage Temperature Range	T_J,T_{STG}	-50 to +150	°C

NOTES : (1) Non-repetitive current pulse, per Fig. 5 and derated above T_A= 25°C per Fig. 1
(2) Measured 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

RATINGS AND CHARACTERISTIC CURVES STCDH SERIES

FIG.2 - PULSE DERATING CURVE

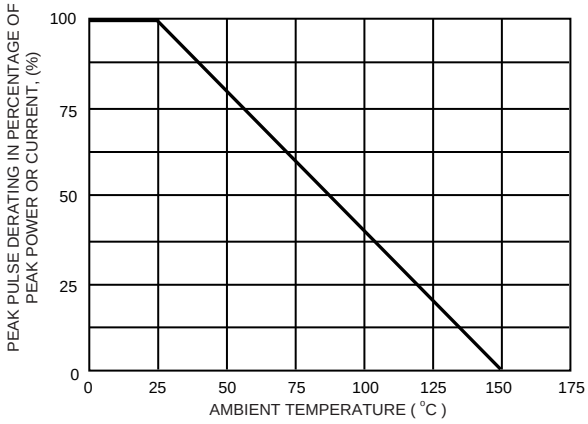


FIG.6 - MAXIMUN NON-REPETITIVE SURGE CURRENT
UNI-DIRECTIONAL ONLY CURRENT

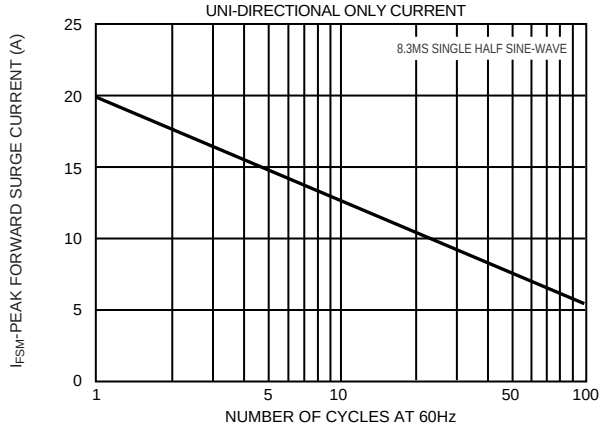


FIG.5 - STEADY STATE POWER DERATING CURVE

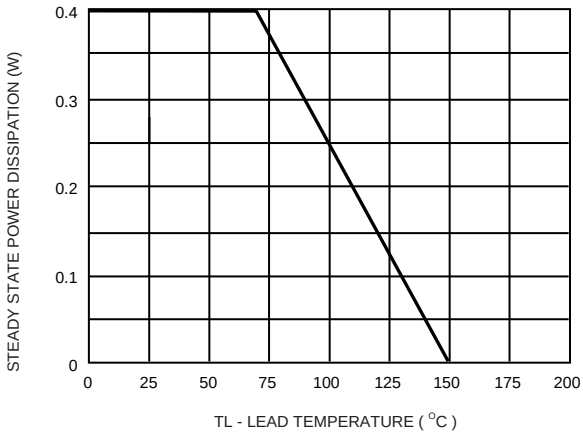


FIG.1- PEAK PULSS POWER RATING CURVE

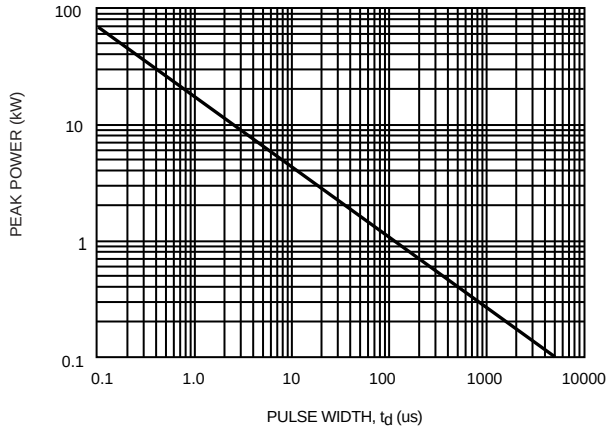


FIG.3 - PULSE WAVEFORM

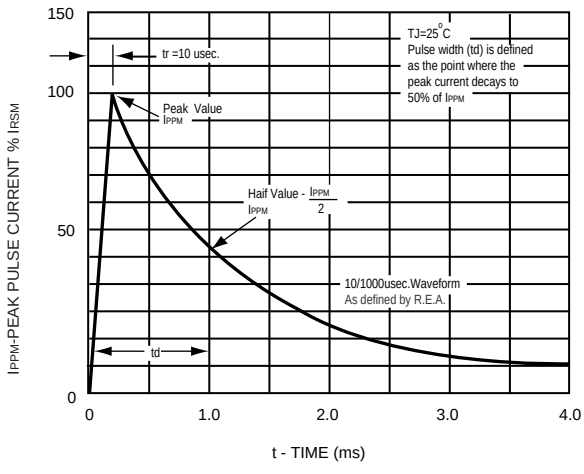
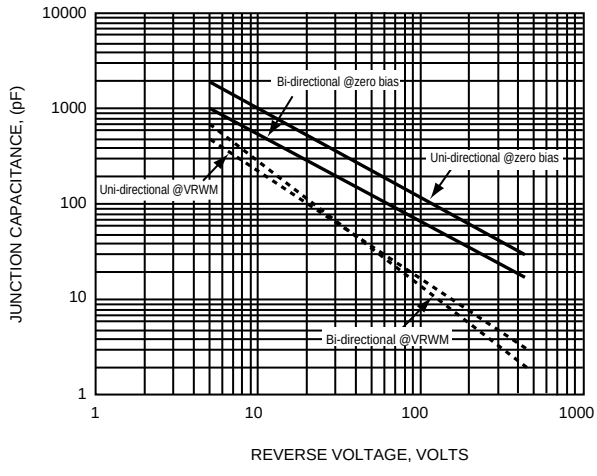


FIG. 6 - TYLPICAL JUNCTION CAPACITANCE



PART NUMBER		Working Peak Reverse Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} @I_T			Maximum Clamping Voltage V_C (V) @ I_{PP}	Maximum Reverse Surge Current I_{PP} (A) @10 x 1000 μs sinewave	Maximum Reverse Leakage I_R (μA) @V_{RWM}
UNI- POLAR	BI-POLAR		Min. (V)	Max. (V)	I_T (mA)			
STCD5.0AH	STCD5.0CAH	5.0	6.40	7.00	10	9.2	21.74	400
STCD6.0AH	STCD6.0CAH	6.0	6.67	7.37	10	10.3	19.42	400
STCD6.5AH	STCD6.5CAH	6.5	7.22	7.98	10	11.2	17.86	250
STCD7.0AH	STCD7.0CAH	7.0	7.78	8.60	10	12.0	16.67	100
STCD7.5AH	STCD7.5CAH	7.5	8.33	9.21	1	12.9	15.50	50
STCD8.0AH	STCD8.0CAH	8.0	8.89	9.83	1	13.6	14.71	25
STCD8.5AH	STCD8.5CAH	8.5	9.44	10.40	1	14.4	13.89	10
STCD9.0AH	STCD9.0CAH	9.0	10.00	11.10	1	15.4	12.99	5
STCD10AH	STCD10CAH	10	11.10	12.30	1	17.0	11.76	2.5
STCD11AH	STCD11CAH	11	12.20	13.50	1	18.2	10.99	2.5
STCD12AH	STCD12CAH	12	13.30	14.70	1	19.9	10.05	2.5
STCD13AH	STCD13CAH	13	14.40	15.90	1	21.5	9.30	1
STCD14AH	STCD14CAH	14	15.60	17.20	1	23.2	8.62	1
STCD15AH	STCD15CAH	15	16.70	18.50	1	24.4	8.20	1
STCD16AH	STCD16CAH	16	17.80	19.70	1	26.0	7.69	1
STCD17AH	STCD17CAH	17	18.90	20.90	1	27.6	7.25	1
STCD18AH	STCD18CAH	18	20.00	22.10	1	29.2	6.85	1
STCD19AH	STCD19CAH	19	21.10	23.30	1	30.6	6.54	1
STCD20AH	STCD20CAH	20	22.20	24.50	1	32.4	6.17	1
STCD22AH	STCD22CAH	22	24.40	26.90	1	35.5	5.63	1
STCD24AH	STCD24CAH	24	26.70	29.50	1	38.9	5.14	1
STCD26AH	STCD26CAH	26	28.90	31.90	1	42.1	4.75	1
STCD28AH	STCD28CAH	28	31.10	34.40	1	45.4	4.41	1
STCD30AH	STCD30CAH	30	33.30	36.80	1	48.4	4.13	1
STCD33AH	STCD33CAH	33	36.70	40.60	1	53.3	3.75	1
STCD36AH	STCD36CAH	36	40.00	44.20	1	58.1	3.44	1
STCD40AH	STCD40CAH	40	44.40	49.10	1	64.5	3.10	1
STCD43AH	STCD43CAH	43	47.80	52.80	1	69.4	2.88	1
STCD45AH	STCD45CAH	45	50.00	55.30	1	72.7	2.75	1
STCD48AH	STCD48CAH	48	53.30	58.90	1	77.4	2.58	1
STCD51AH	STCD51CAH	51	56.70	62.70	1	82.4	2.43	1
STCD54AH	STCD54CAH	54	60.00	66.30	1	87.1	2.30	1
STCD58AH	STCD58CAH	58	64.40	71.20	1	93.6	2.14	1
STCD60AH	STCD60CAH	60	66.70	73.70	1	96.8	2.07	1
STCD64AH	STCD64CAH	64	71.10	78.60	1	103.0	1.94	1
STCD70AH	STCD70CAH	70	77.80	86.00	1	113.0	1.77	1
STCD75AH	STCD75CAH	75	83.30	92.10	1	121.0	1.65	1
STCD78AH	STCD78CAH	78	86.70	95.80	1	126.0	1.59	1
STCD80AH	STCD80CAH	80	88.80	97.60	1	129.0	1.55	1
STCD85AH	STCD85CAH	85	94.40	104.00	1	137.0	1.46	1
STCD90AH	STCD90CAH	90	100	111	1	146.0	1.37	1
STCD100AH	STCD100CAH	100	111	123	1	162.0	1.23	1
STCD110AH	STCD110CAH	110	122	135	1	177.0	1.13	1
STCD120AH	STCD120CAH	120	133	147	1	193.0	1.04	1
STCD130AH	STCD130CAH	130	144	159	1	209.0	0.96	1
STCD140AH	STCD140CAH	140	155	171	1	224.0	0.89	1
STCD150AH	STCD150CAH	150	167	185	1	243.0	0.82	1
STCD160AH	STCD160CAH	160	178	197	1	259.0	0.77	1
STCD170AH	STCD170CAH	170	189	209	1	275.0	0.73	1
STCD180AH	STCD180CAH	180	200	220	1	292.0	0.69	1
STCD190AH	STCD190CAH	190	211	232	1	308.0	0.69	1

NOTE : 1. The available parts " A " type only, the parts without A(V_{BR} is ± 10%) is not available
2. Add suffix " CA " after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double .