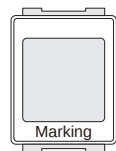
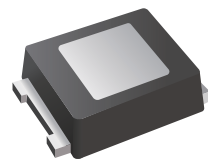




Features

- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- 1500W peak pulse power capability at 10/1000 μ s waveform, repetition rate (duty cycle): 0.01%
- Plastic package has underwriters laboratory flammability 94V-0
- Meets MSL level 1, per J-STD-020
- Typical I_R less than 1 μ A above 10V
- For surface mounted applications in order to optimize board space
- Low inductance
- Built-in strain relief
- Fast response time
- Glass passivated junction
- Excellent clamping capability
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SMHL
- Terminal: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: For uni-directional types the band denotes cathode end, no marking on bi-directional types

Applications

- I/O interface
- Vcc bus
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Ordering Information

Part Number	Marking	Shipping	Reel
RHVxxA(C)M	See the Table	6000PCS Tape&Reel	13 inches

Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak pulse power dissipation at 10/1000 μ s waveform (Note1, Note2, Fig.1)	P_{PPM}	Minimum1000	W
Peak pulse current of at 10/1000 μ s waveform (Note 1, Fig.3)	I_{PPM}	See Table	A
Steady state power dissipation at $T_A=50^{\circ}\text{C}$ (Fig.5)	$P_{M(AV)}$	6.0	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	I_{FSM}	150	A
Operating junction and Storage Temperature Range.	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Typical thermal resistance junction to case	$R_{\theta JC}$	4	$^{\circ}\text{C/W}$
Typical thermal resistance junction to ambient	$R_{\theta JA}$	37	$^{\circ}\text{C/W}$

- Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^{\circ}\text{C}$ per Fig.2.
2. Mounted on 0.2"×0.2" (5mm x 5mm) copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum,unidirectional only.



RHVxxA(C)M Series

Transient Voltage Suppressors (TVS) Data Sheet

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Part Number (Uni)	Part Number (Bi)	Marking	Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts)@ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μA)
				MIN	MAX				
RHV5.0AM	RHV5.0CM	5M	5.0	6.40	7.00	10	9.2	108.70	500
RHV6.0AM	RHV6.0CM	6M	6.0	6.67	7.37	10	10.3	97.09	500
RHV6.5AM	RHV6.5CM	6M5	6.5	7.22	7.98	10	11.2	89.29	300
RHV7.0AM	RHV7.0CM	7M	7.0	7.78	8.60	10	12.0	83.33	200
RHV7.5AM	RHV7.5CM	7M5	7.5	8.33	9.21	1	12.9	77.52	100
RHV8.0AM	RHV8.0CM	8M	8.0	8.89	9.83	1	13.6	73.53	50
RHV8.5AM	RHV8.5CM	8M5	8.5	9.44	10.40	1	14.4	69.44	20
RHV9.0AM	RHV9.0CM	9M	9.0	10.00	11.10	1	15.4	64.94	10
RHV10AM	RHV10CM	10M	10.0	11.10	12.30	1	17.0	58.82	5
RHV11AM	RHV11CM	11M	11.0	12.20	13.50	1	18.2	54.95	1
RHV12AM	RHV12CM	12M	12.0	13.30	14.70	1	19.9	50.25	1
RHV13AM	RHV13CM	13M	13.0	14.40	15.90	1	21.5	46.51	1
RHV14AM	RHV14CM	14M	14.0	15.60	17.20	1	23.2	43.10	1
RHV15AM	RHV15CM	15M	15.0	16.70	18.50	1	24.4	40.98	1
RHV16AM	RHV16CM	16M	16.0	17.80	19.70	1	26.0	38.46	1
RHV17AM	RHV17CM	17M	17.0	18.90	20.90	1	27.6	36.23	1
RHV18AM	RHV18CM	18M	18.0	20.00	22.10	1	29.2	34.25	1
RHV20AM	RHV20CM	20M	20.0	22.20	24.50	1	32.4	30.86	1
RHV22AM	RHV22CM	22M	22.0	24.40	26.90	1	35.5	28.17	1
RHV24AM	RHV24CM	24M	24.0	26.70	29.50	1	38.9	25.71	1
RHV26AM	RHV26CM	26M	26.0	28.90	31.90	1	42.1	23.75	1
RHV28AM	RHV28CM	28M	28.0	31.10	34.40	1	45.4	22.03	1
RHV30AM	RHV30CM	30M	30.0	33.30	36.80	1	48.4	20.66	1
RHV33AM	RHV33CM	33M	33.0	36.70	40.60	1	53.3	18.76	1
RHV36AM	RHV36CM	36M	36.0	40.00	44.20	1	58.1	17.21	1
RHV40AM	RHV40CM	40M	40.0	44.40	49.10	1	64.5	15.50	1
RHV43AM	RHV43CM	43M	43.0	47.80	52.80	1	69.4	14.41	1
RHV45AM	RHV45CM	45M	45.0	50.00	55.30	1	72.7	13.76	1
RHV48AM	RHV48CM	48M	48.0	53.30	58.90	1	77.4	12.92	1
RHV51AM	RHV51CM	51M	51.0	56.70	62.70	1	82.4	12.14	1
RHV54AM	RHV54CM	54M	54.0	60.00	66.30	1	87.1	11.48	1
RHV58AM	RHV58CM	58M	58.0	64.40	71.20	1	93.6	10.68	1
RHV60AM	RHV60CM	60M	60.0	66.70	73.70	1	96.8	10.33	1
RHV64AM	RHV64CM	64M	64.0	71.10	78.60	1	103.0	9.71	1
RHV70AM	RHV70CM	70M	70.0	77.80	86.00	1	113.0	8.85	1
RHV75AM	RHV75CM	75M	75.0	83.30	92.10	1	121.0	8.26	1
RHV78AM	RHV78CM	78M	78.0	86.70	95.80	1	126.0	7.94	1
RHV85AM	RHV85CM	85M	85.0	94.40	104.00	1	137.0	7.30	1
RHV90AM	RHV90CM	90M	90.0	100.00	111.00	1	146.0	6.85	1
RHV100AM	RHV100CM	100M	100.0	111.00	123.00	1	162.0	6.17	1
RHV110AM	RHV110CM	110M	110.0	122.00	135.00	1	177.0	5.65	1
RHV120AM	RHV120CM	120M	120.0	133.00	147.00	1	193.0	5.18	1
RHV130AM	RHV130CM	130M	130.0	144.00	159.00	1	209.0	4.78	1
RHV150AM	RHV150CM	150M	150.0	167.00	185.00	1	243.0	4.12	1

Notes: For bidirectional type having V_R of 10V and less, the I_R limit is double.



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

Fig.1 Peak Pulse Power Rating Curve

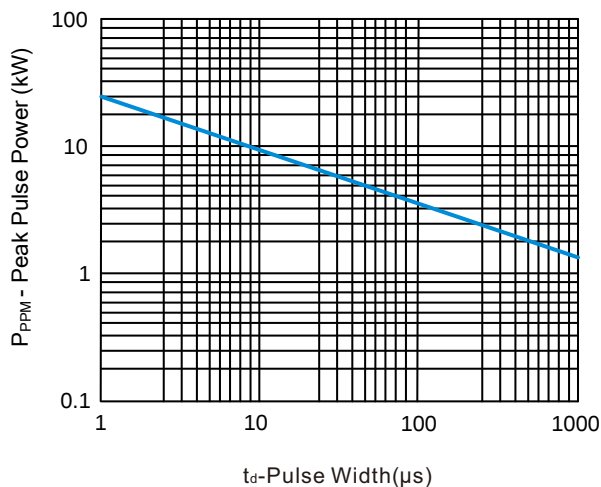


Fig.4 Typical Junction Capacitance

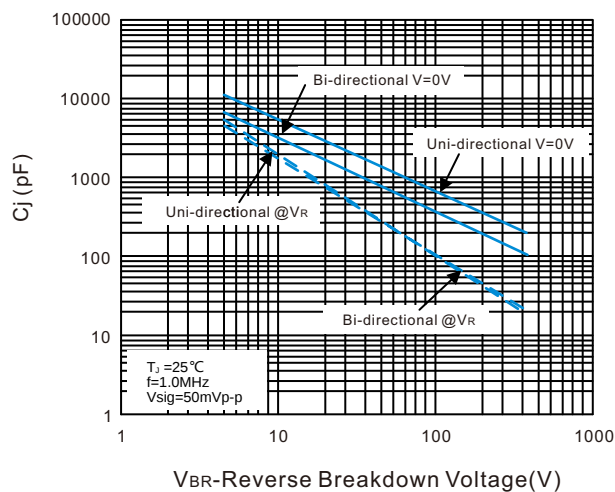


Fig.2 Pulse Derating Curve

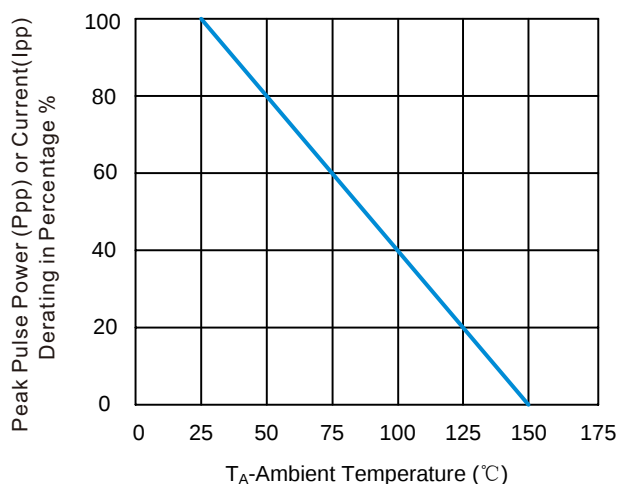


Fig.5 Steady State Power Dissipation Derating Curve

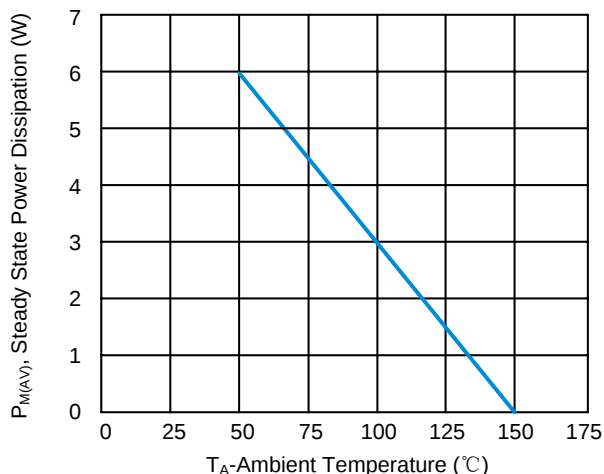


Fig.3 Pulse Waveform

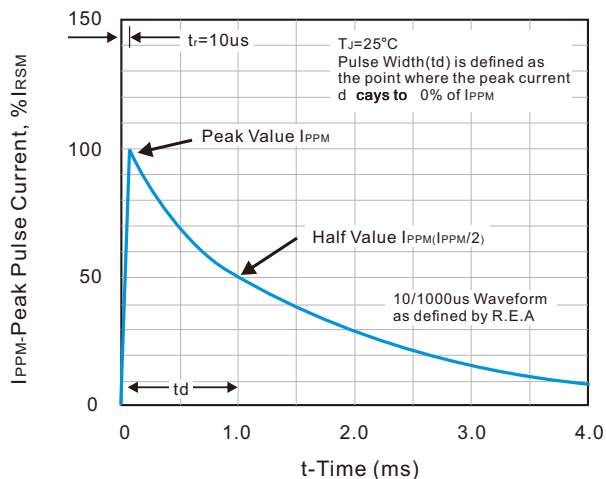
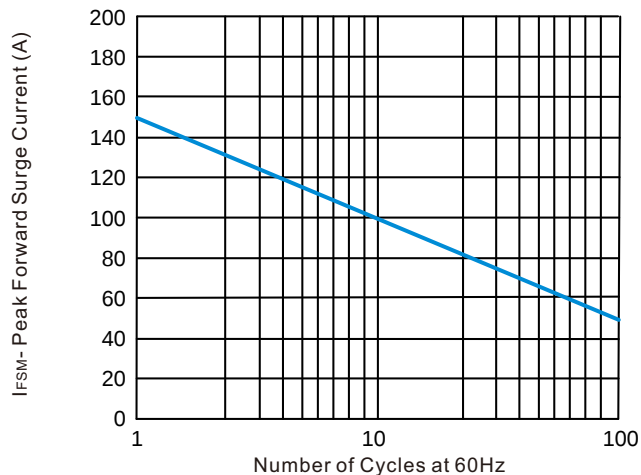
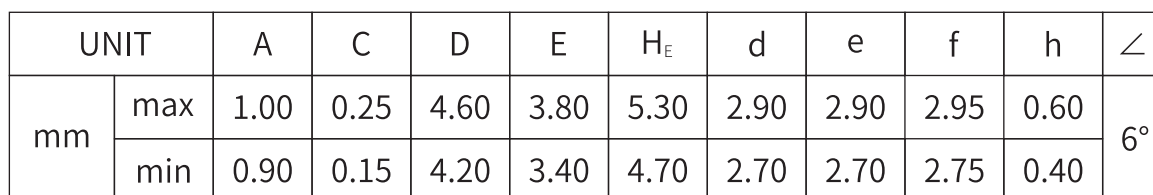


Fig.6 Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



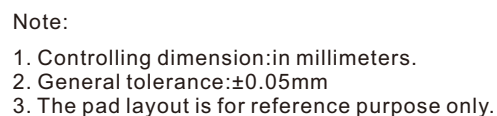
**SMHL**

Unit : mm



SMHL

Unit : mm

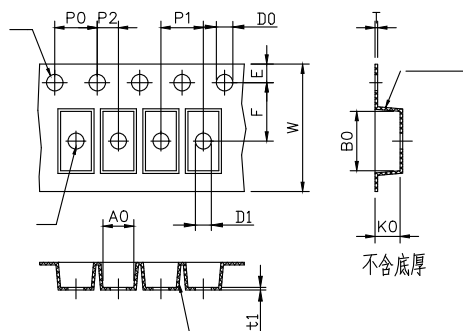




RHVxxA(C)M Series Transient Voltage Suppressors (TVS) Data Sheet

Carrier Tape Dimensions

Unit : mm

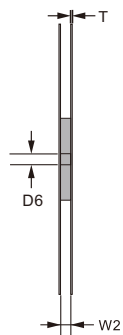
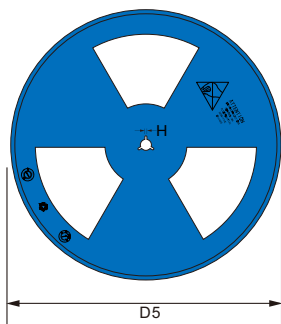


Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.85±0.10
D1	1.50±0.10	B0	5.35±0.10
P0	4.00±0.10	K0	1.20±0.10
P1	8.00±0.10		

Reel Dimensions

Unit : mm

13" Reel

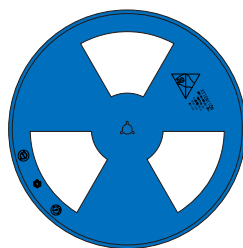


D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.3±0.2
T	1.95±0.5
W2	12±2.0
Quantity: 6000PCS	

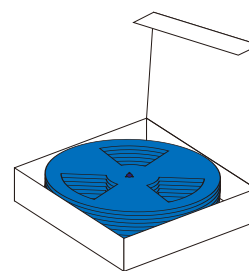
Packaging



6000PCS/Reel

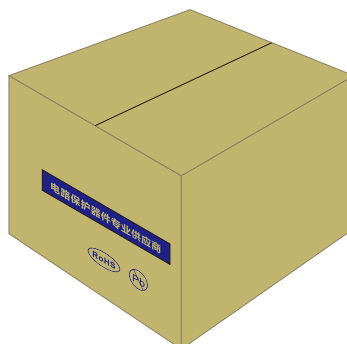


5Reel/Inner Box
30KPCS/Inner Box



Dim(Unit:mm)
340mm*340mm*85mm

Dim(Unit:mm)
360mm*360mm*355mm

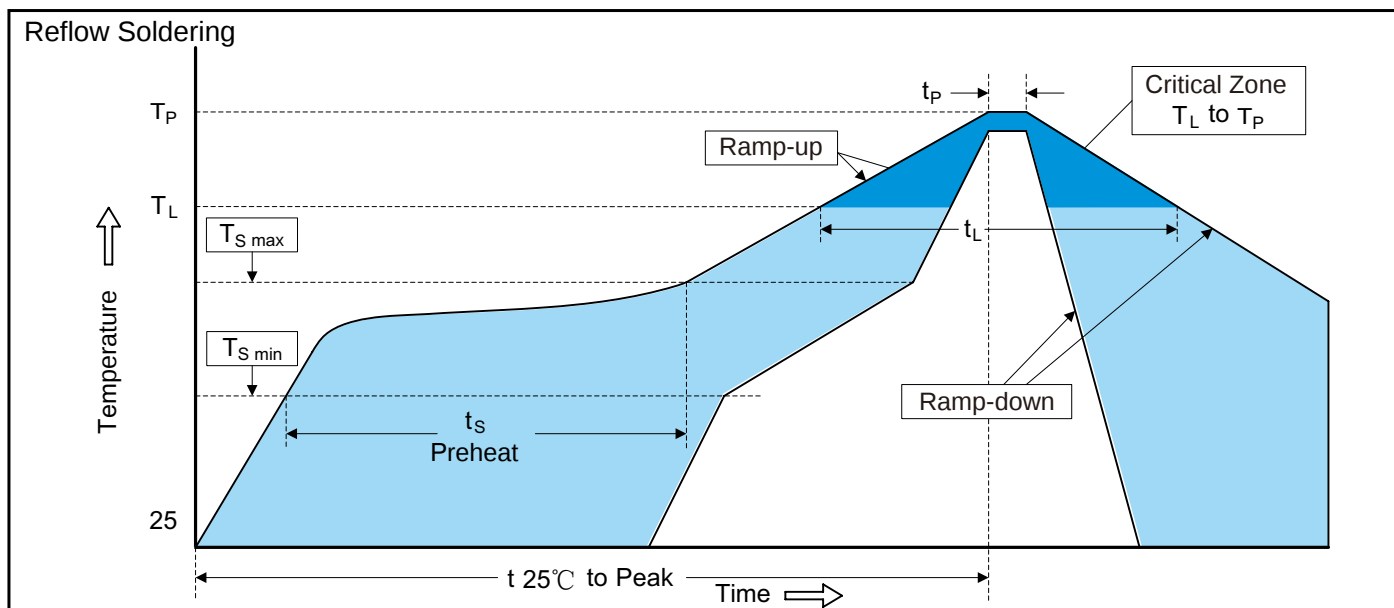


4 Boxes per carton
120KPCS per carton

13 inches Reel



Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat	
-Temperature Min ($T_{S\min}$)	150°C
-Temperature Max ($T_{S\max}$)	200°C
-Time (min to max) (t_s)	60-180 seconds
$T_{S\max}$ to T_L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T_L)	217°C
-Time (t_L)	60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.