



RHR1AS THRU RHR1MS

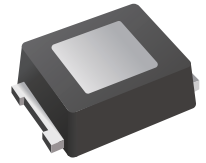
Surface Mount Fast Recovery Rectifiers

Features

- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- For surface mounted applications
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanical Data

- Case: SMHS
- Terminals: leads solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end



Ordering Information

Part Number	Shipping	Reel
RHR1AS THR RHR1MS	15000PCS Tape&Reel	13 inchs

Absolute Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

Parameter	Symbol	RHR1AS	RHR1BS	RHR1DS	RHR1GS	RHR1JS	RHR1KS	RHR1MS	Unit
	Marking	R1A	R1B	R1D	R1G	R1J	R1K	R1M	
Maximum repetitive peak reverse voltage	V _{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V _{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V _{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current @ Fig.1	I _{F(AV)}	1							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	30							A
Maximum instantaneous forward voltage at 1.0A	V _F	1.3							V
Maximum DC reverse current T _A =25°C at rated DC reverse voltage T _A =100°C	I _R	1 50							μA
Typical junction capacitance (Note1)	C _j	15							pF
Maximum reverse recovery time (Note2)	t _{rr}	150				250	500		ns
Typical thermal resistance (Note3)	R _{θJA} R _{θJC}	65 7							°C/W
Operating and StorageTemperature Range	T _j , T _{stg}	-55 to +150							°C

Note: (1) Measured at 1 MHz and applied reverse voltage of 4 V D.C.
(2) Measured with $I_F = 0.5 A$, $I_R = 1 A$, $t_{rr} = 0.25 A$.
(3) P.C.B. mounted with 0.08" × 0.08"(2mm × 2mm) copper pad areas.



Characteristics Curves

FIG.1 FORWARD CURRENT DERATING CURVE

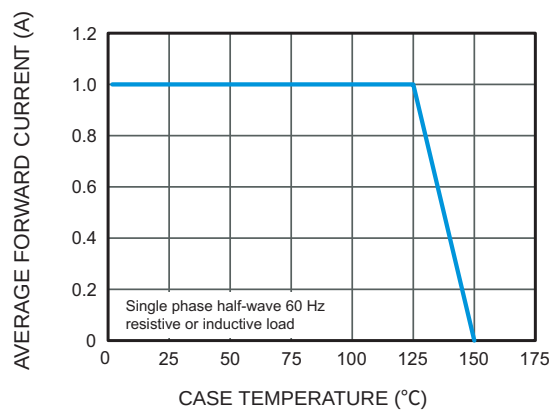


FIG.2 TYPICAL REVERSE CHARACTERISTICS

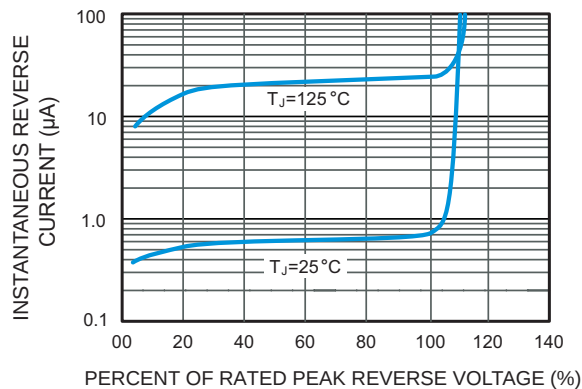


FIG.3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

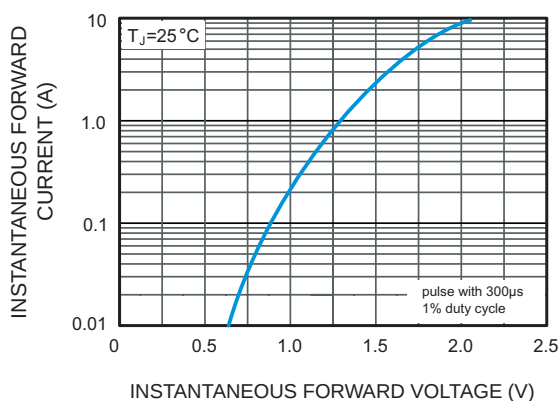


Fig. 4 TYPICAL JUNCTION CAPACITANCE

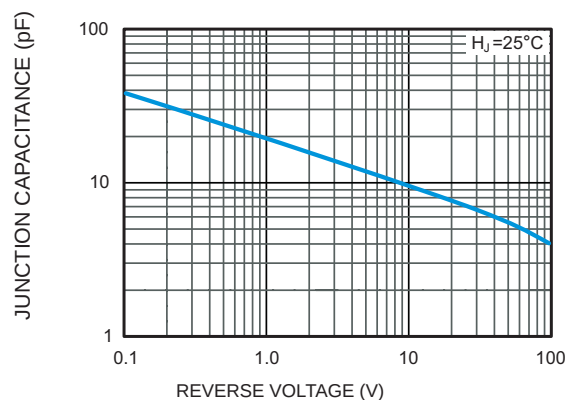
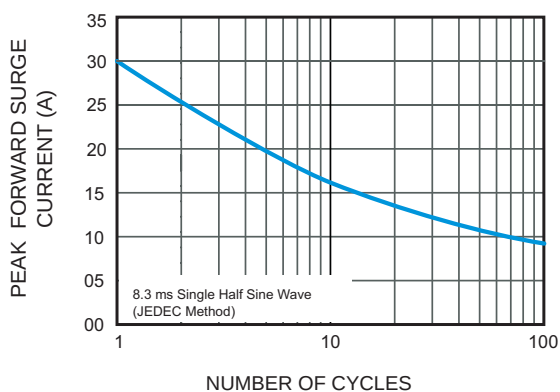


FIG.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

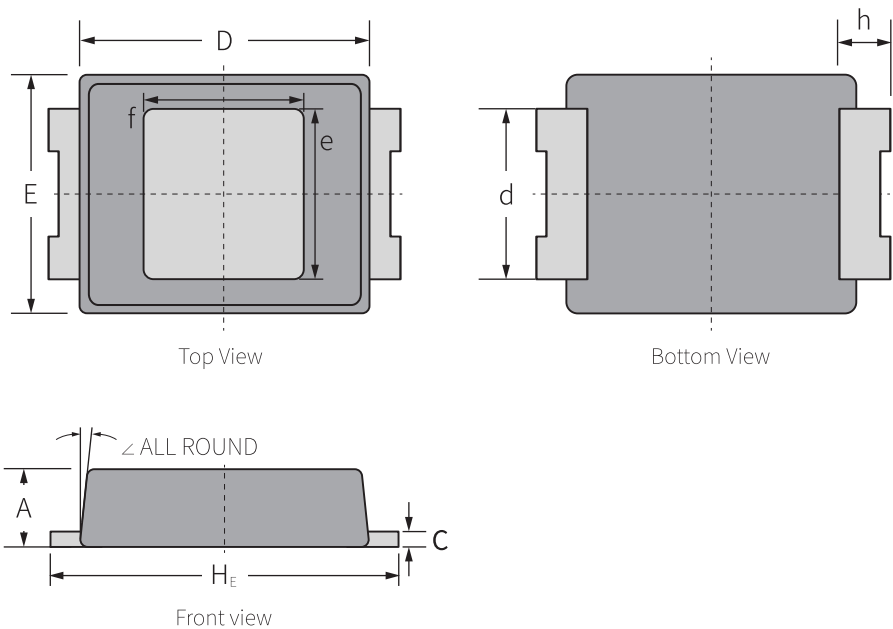




Package Outline

SMHS

Unit : mm

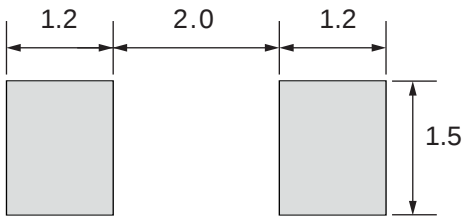


UNIT		A	C	D	E	H _E	d	e	f	h	∠
mm	max	0.99	0.25	2.90	2.10	3.50	1.30	1.30	1.25	0.70	6°
	min	0.83	0.15	2.50	1.70	2.90	1.10	1.10	1.05	0.50	

Suggested Pad Layout

SMHS

Unit : mm



- Note:
- 1. Controlling dimension: in millimeters.
 - 2. General tolerance: ±0.05mm
 - 3. The pad layout is for reference purpose only.

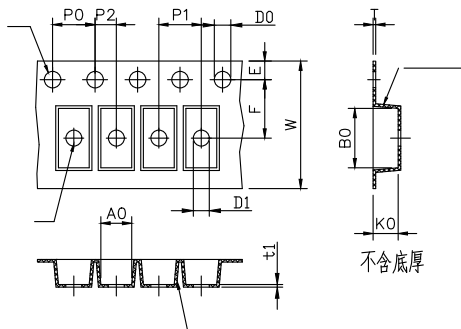


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Carrier Tape Dimensions

Unit : mm



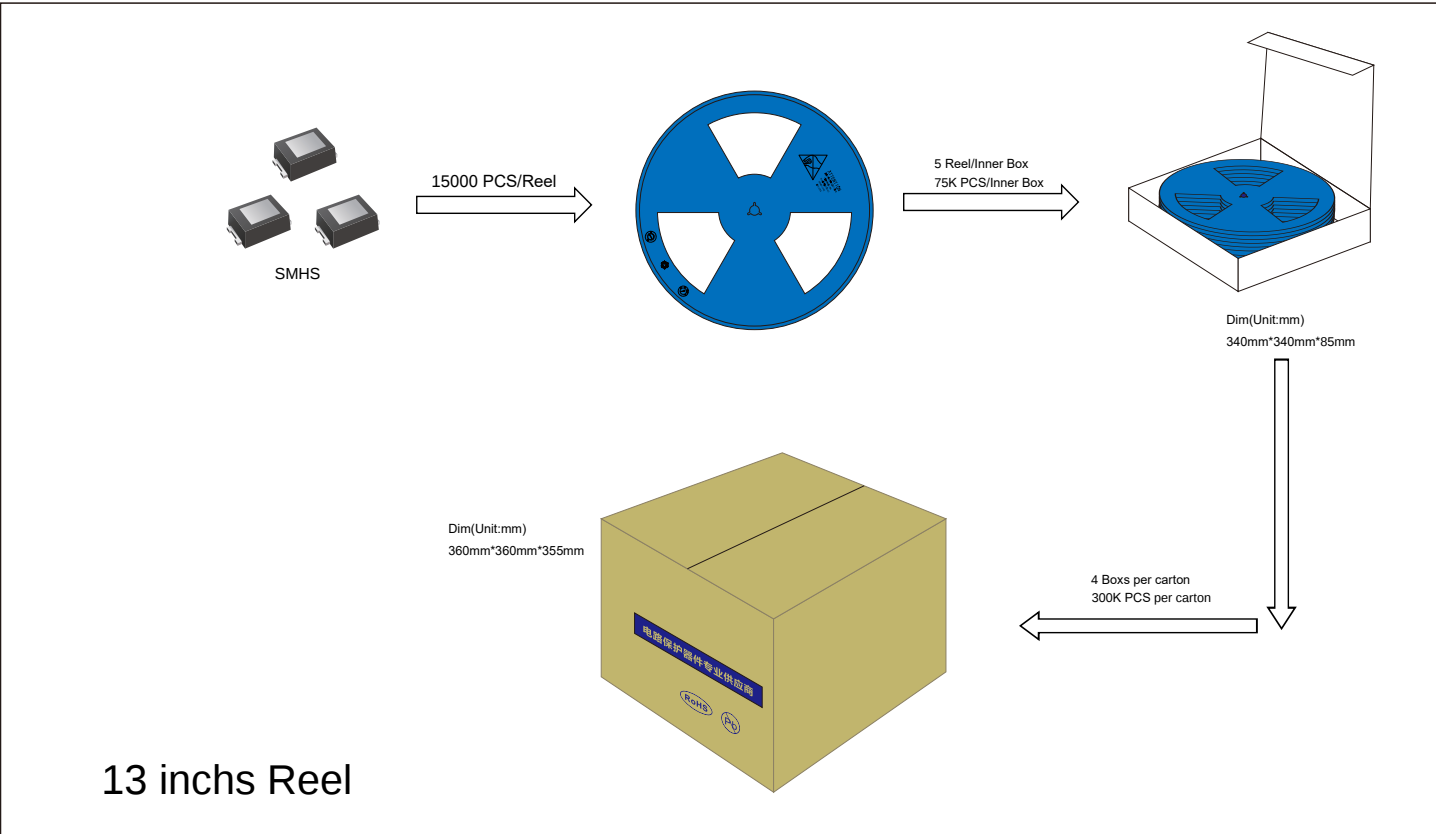
Symbol	Spec	Symbol	Spec
W	8.00±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.22±0.02
F	3.50±0.10	t1	Min. 0.05
D0	1.55±0.10	A0	2.15±0.10
D1	1.10±0.10	B0	3.40±0.10
P0	4.00±0.10	K0	1.15±0.10
P1	4.00±0.10		

Reel Dimensions

Unit : mm

13" Reel 	D5	Φ330.0±5.0
	D6	Φ13.5±0.5
	H	2.5±1.0
	W2	8.0±2.0
	Quantity: 15000PCS	

Packaging





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 ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 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.