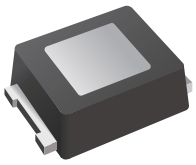
RHU3AM THRU RHU3MM

Surface Mount Ultra Fast Recovery Rectifier

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

Ordering Information

Part Number	Shipping	Reel
RHU3AM THR RHU3MM	15000PCS Tape&Reel	13 inchs

Absolute Maximum Ratings and Electrical Characteristics

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

Parameter	Symbol	RHU3AM	RHU3BM	RHU3DM	RHU3GM	RHU3JM	RHU3KM	RHU3MM	Unit
	Marking	U3A	U3B	U3D	U3G	U3J	U3K	U3M	
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	$I_{F(AV)}$	3							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	100							A
Maximum instantaneous forward voltage at 3.0A	V_F	1.0			1.3	1.65			V
Maximum DC reverse current T_A=25℃ at rated DC reverse voltage T_A=100℃	I_R	1 100							μA
Typical junction capacitance (Note1)	C_j	50				30			pF
Maximum reverse recovery time (Note2)	t_{rr}	50				75			ns
Typical thermal resistance (Note3)	$R_{\theta JA}$ $R_{\theta JC}$	38 6							°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, I_{rr} = 0.25 A.
(3) P.C.B. mounted with 0.08" × 0.08"(2mm x 2mm) copper pad areas.

Characteristics Curves

FIG. 1 FORWARD CURRENT DERATING CURVE

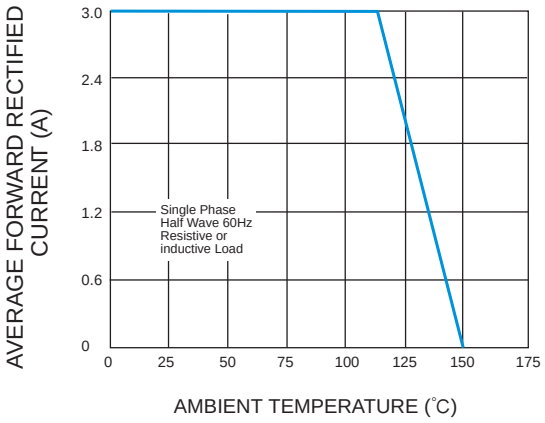


FIG. 2 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

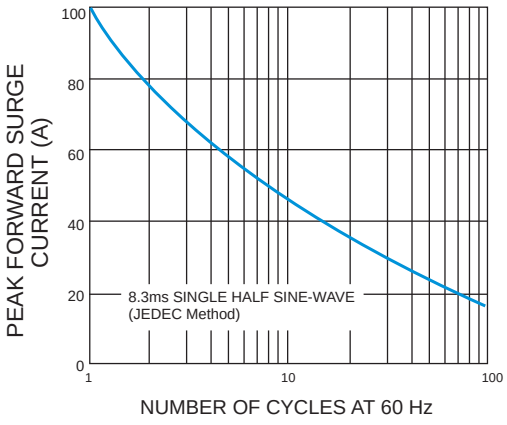


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

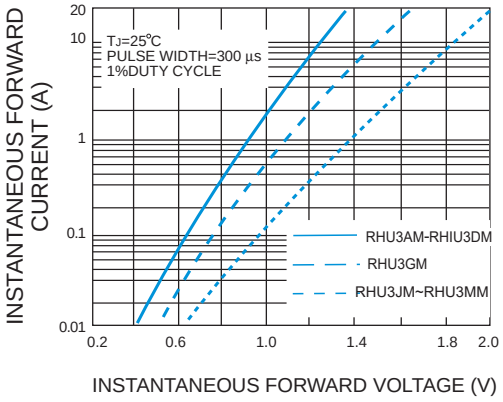


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

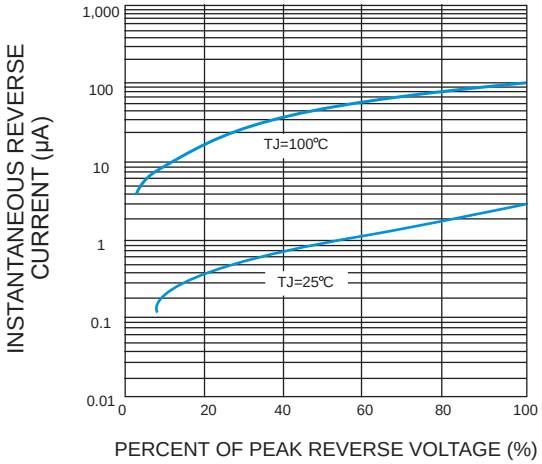
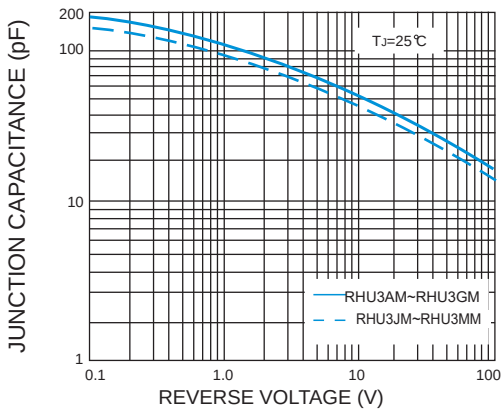


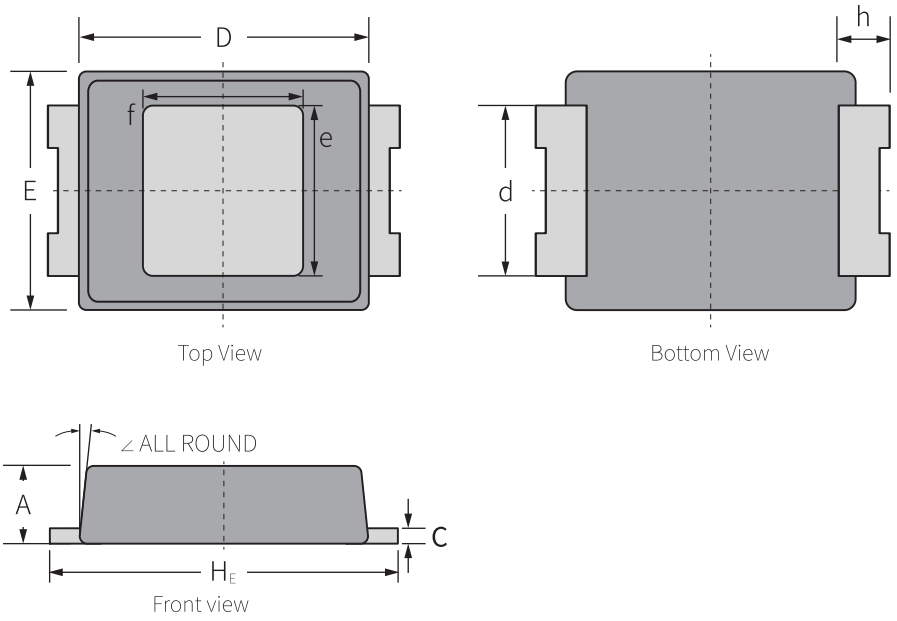
FIG. 5 TYPICAL JUNCTION CAPACITANCE



Package Outline

SMHM

Unit：mm

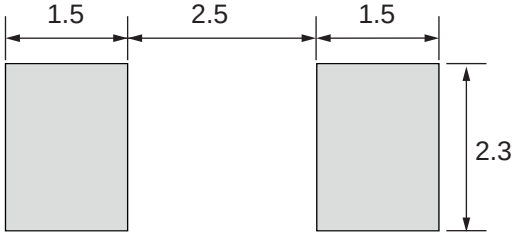


UNIT		A	C	D	E	H_E	d	e	f	h	∠
mm	max	0.99	0.25	3.60	3.00	4.30	2.10	2.10	2.00	0.70	6°
	min	0.83	0.15	3.20	2.60	3.70	1.90	1.90	1.78	0.50	

Suggested Pad Layout

SMHM

Unit：mm

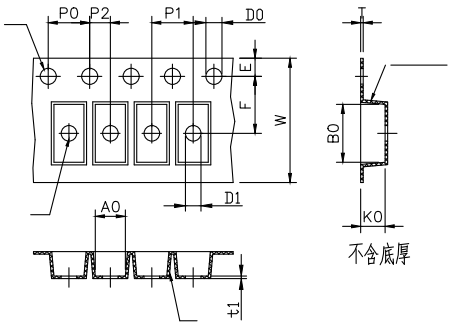


Note:

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

Carrier Tape Dimensions

Unit：mm

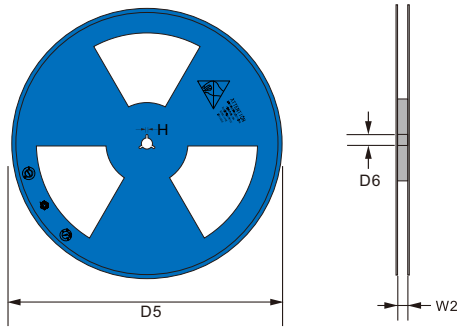


Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.05±0.10
D1	1.50±0.10	B0	4.35±0.10
P0	4.00±0.10	K0	1.15±0.10
P1	4.00±0.10		

Reel Dimensions

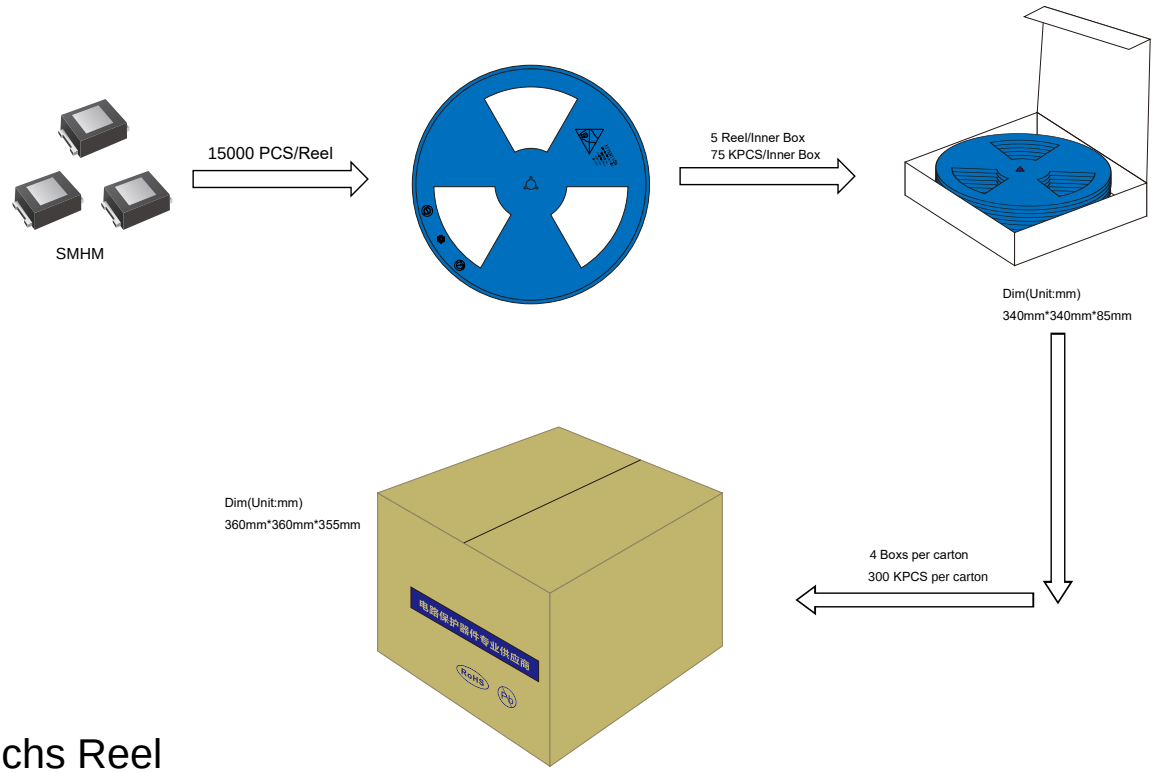
Unit：mm

13” Reel



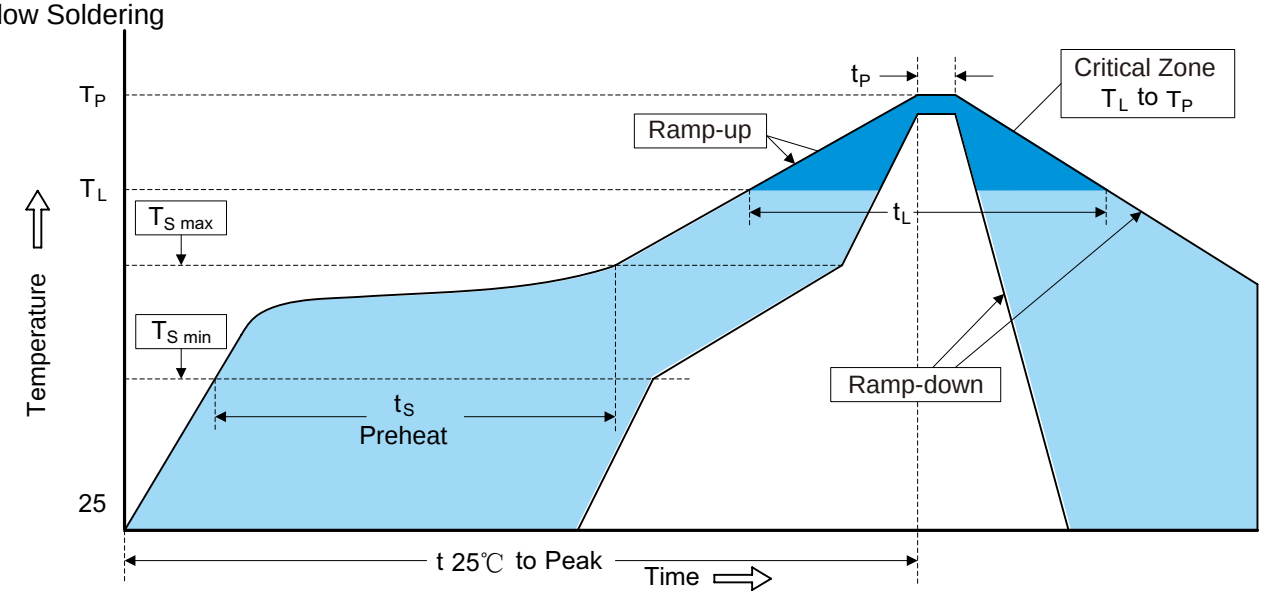
D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 15000PCS	

Packaging



Recommended Soldering Conditons

Reflow Soldering



Recommended Conditions

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