



RHU3AL THRU RHU3ML

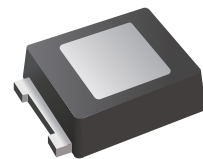
Surface Mount Ultra Fast Recovery Rectifier

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



Ordering Information

Part Number	Shipping	Reel
RHU3AL THR RHU3ML	6000PCS 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	RHU3AL	RHU3BL	RHU3DL	RHU3GL	RHU3JL	RHU3KL	RHU3ML	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°C at rated DC reverse voltage T _A =100°C	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 _{θJA} R _{θJC}	39 3							°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" x 0.08" (2mm x 2mm) copper pad areas.



Characteristics Curves

FIG. 1 FORWARD CURRENT DERATING CURVE

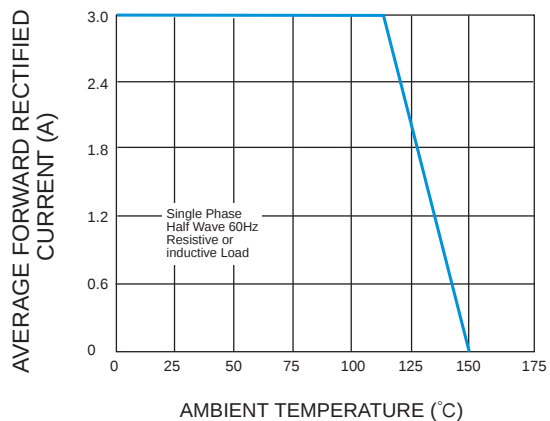


FIG. 2 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

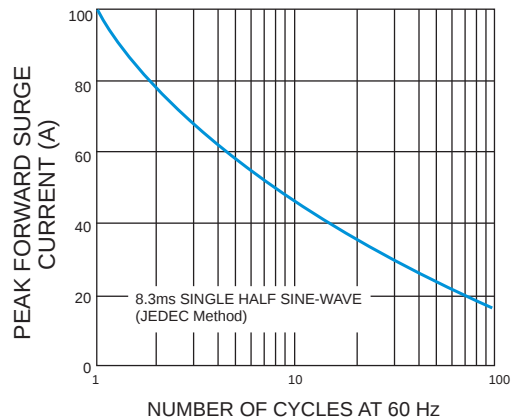


FIG. 3 TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

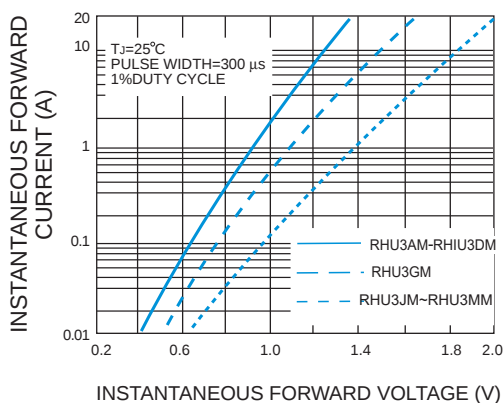


FIG. 4 TYPICAL REVERSE CHARACTERISTICS

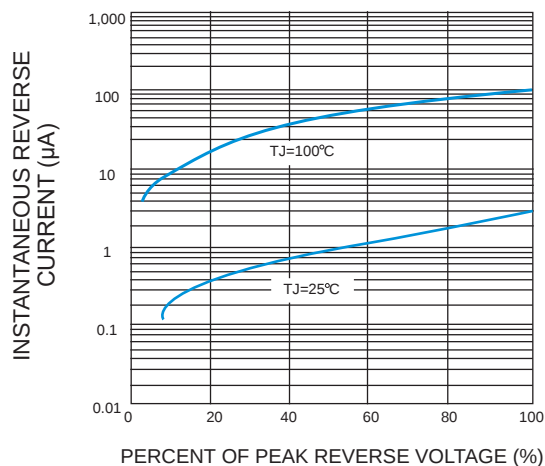
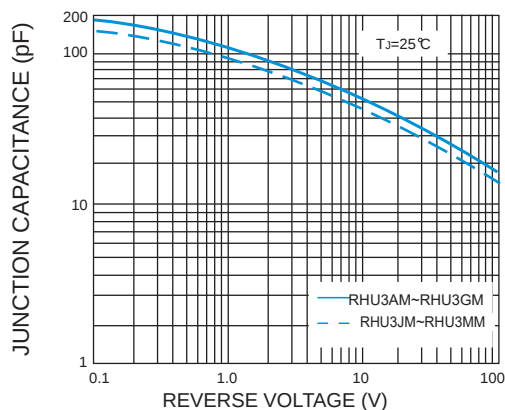


FIG. 5 TYPICAL JUNCTION CAPACITANCE



**SMHL**

Technical drawing of a square flange with four mounting tabs. The drawing includes three views: Top View, Bottom View, and Front view.

- Top View:** Shows the square flange with outer dimension D , inner dimension E , and mounting tab width f .
- Bottom View:** Shows the flange with mounting tab thickness d and flange thickness h .
- Front view:** Shows the flange with height A , total width H_E , and mounting tab height C . The text "ALL ROUND" indicates that all corners are rounded.

UNIT		A	C	D	E	H _E	d	e	f	h	∠
mm	max	1.00	0.25	4.60	3.80	5.30	2.90	2.90	2.95	0.60	6°
	min	0.90	0.15	4.20	3.40	4.70	2.70	2.70	2.75	0.40	

SMHL

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

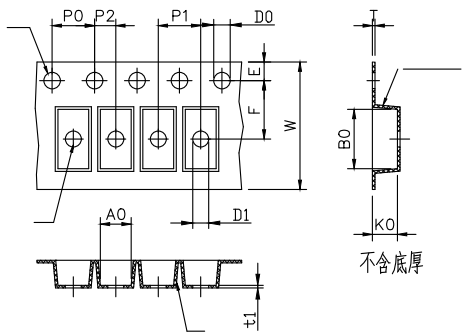


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Surface Mount Ultra Fast Recovery Rectifier

Carrier Tape Dimensions

Unit : mm



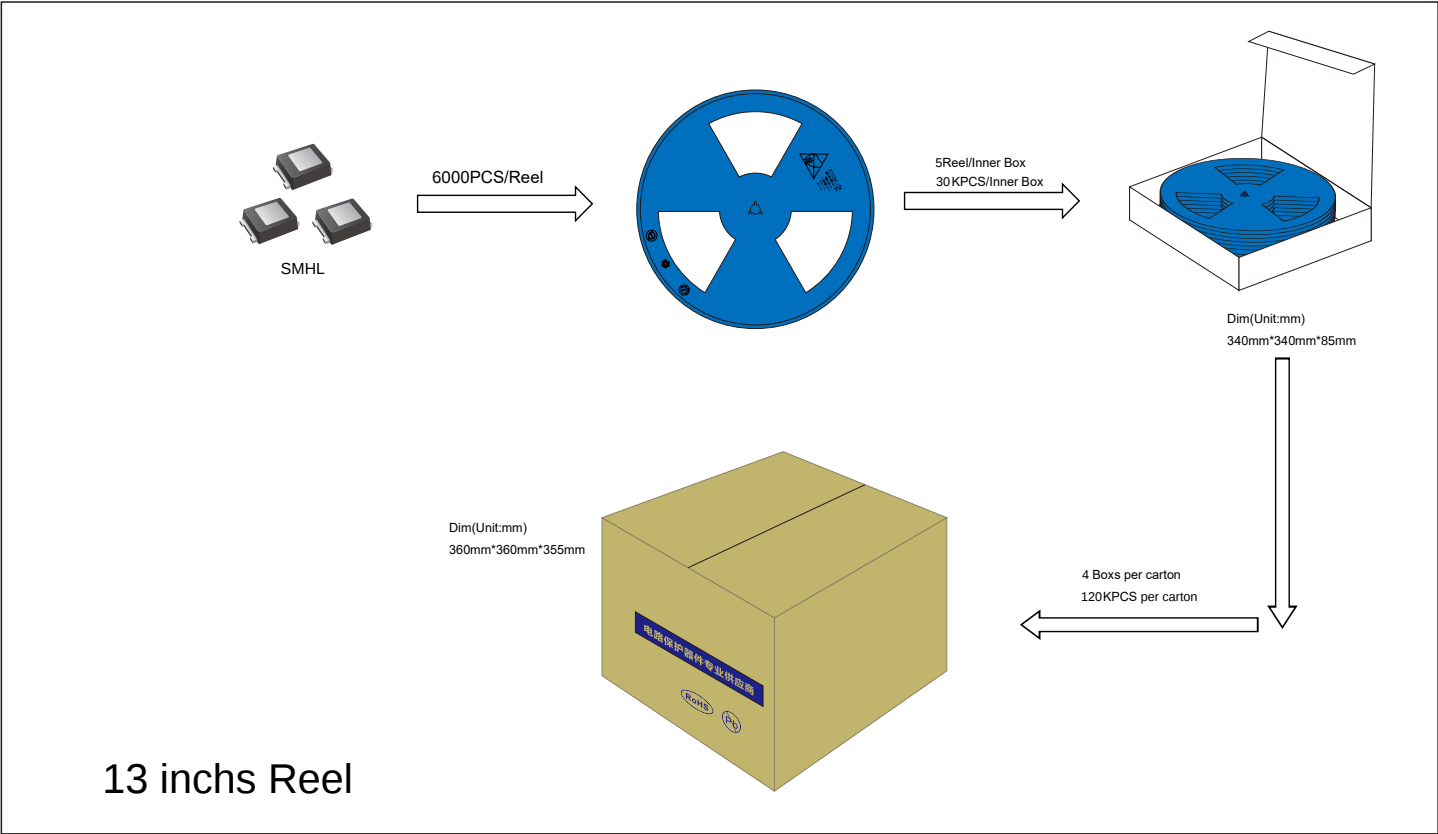
Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.85±0.10
D1	1.50±0.10	B0	5.35±0.10
P0	4.00±0.10	K0	1.20±0.10
P1	8.00±0.10		

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	

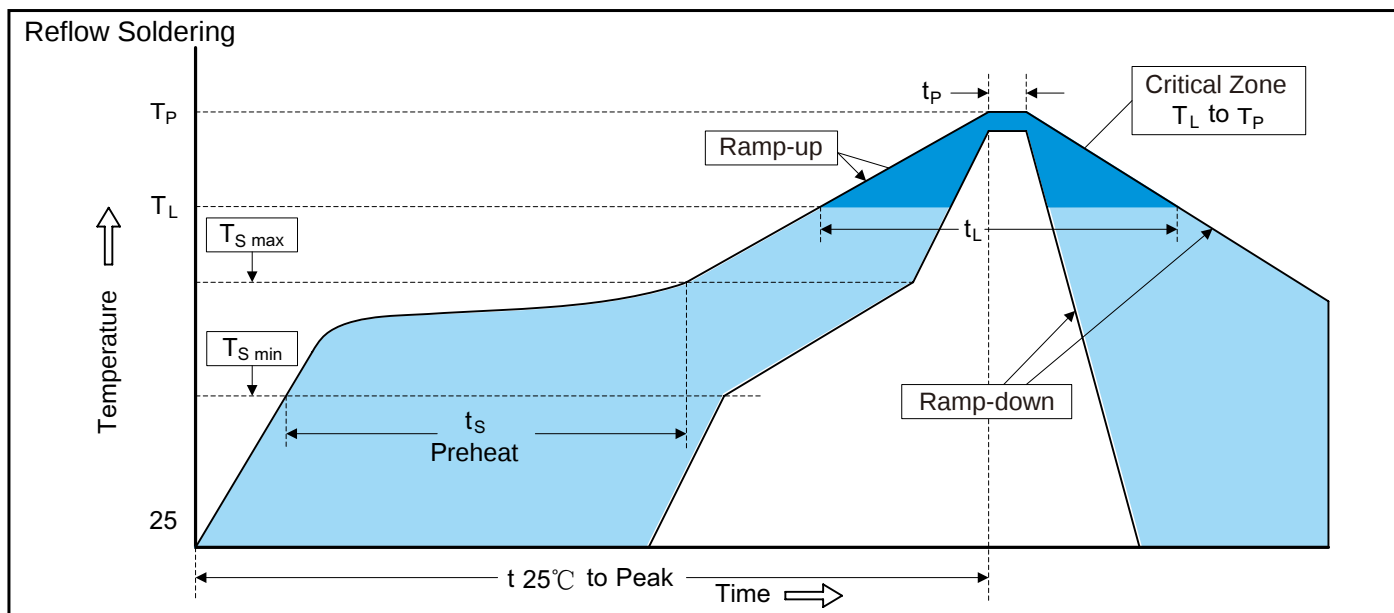
Packaging



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.