

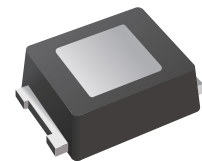


RH52HM THRU RH520HM

Surface Mount Schottky Barrier Rectifier

Features

- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- High forward surge current capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Meets MSL level 1, per J-STD-020
- 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
RH52HM THR RH520HM	15000PCS Tape&Reel	13 inches

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	RH52HM	RH54HM	RH56HM	RH510HM	RH520HM	Unit
	Marking	S52	S54	S56	S510	S520	
Maximum repetitive peak reverse voltage	V _{RRM}	20	40	60	100	200	V
Maximum RMS voltage	V _{RMS}	14	28	42	70	140	V
Maximum DC blocking voltage	V _{DC}	20	40	60	100	200	V
Maximum average forward rectified current at T _L (see fig.1)	I _(AV)	5.0					A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I _{FSM}	120.0					A
Maximum instantaneous forward voltage at 5.0A	V _F	0.55		0.65	0.80	0.85	V
Maximum DC reverse current T _A =25℃ at rated DC blocking voltage T _A =100℃	I _R	20		10	2		uA
		5			3		mA
Typical junction capacitance (Note1)	C _J	500			300		pF
Typical thermal resistance (Note2)	R _{θJA}	61					℃/W
	R _{θJC}	6					
Operating junction temperature range	T _J	-55 to +125					℃
Storage temperature range	T _{STG}	-55 to +125					℃

Note: (1) Measured at 1MHz and applied reverse voltage of 4.0V D.C.

(2) PCB mounted with 0.08"x0.08"(2mmx2mm) copper pad areas.



Characteristics Curves

Fig.1 Forward Current Derating Curve

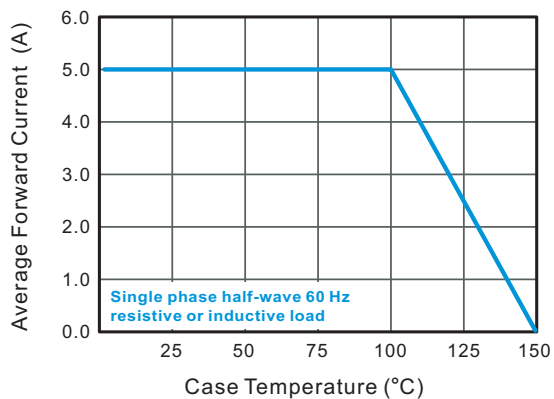


Fig.2 Typical Reverse Characteristics

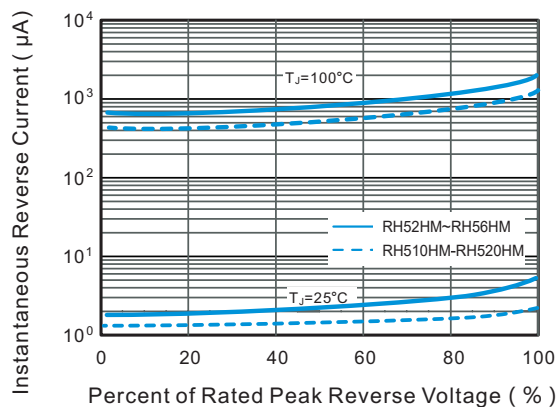


Fig.3 Typical Forward Characteristic

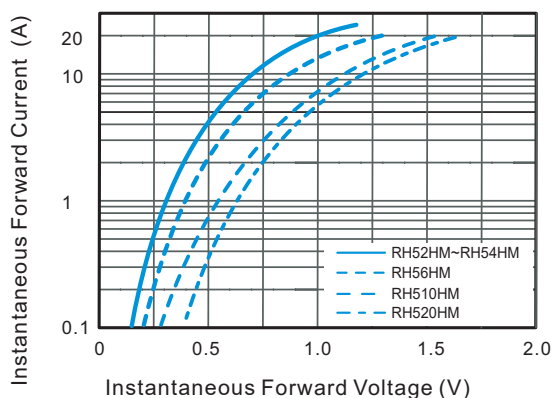


Fig.4 Typical Junction Capacitance

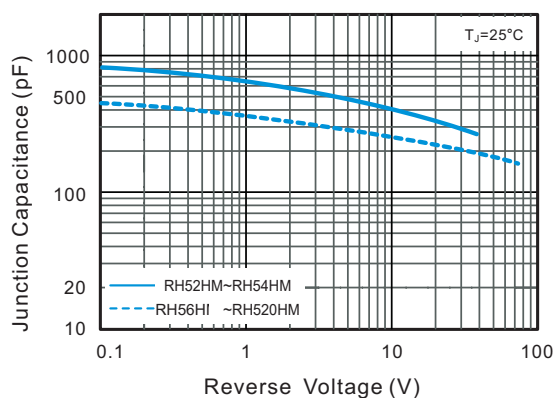


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

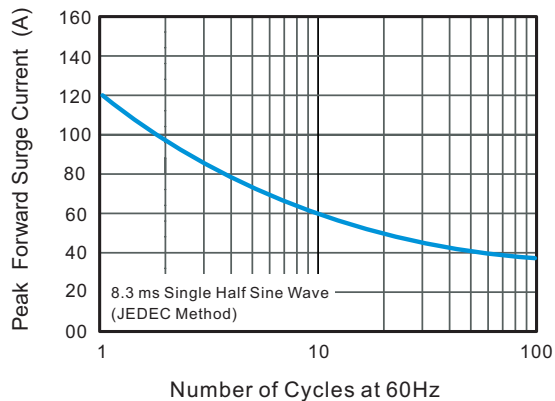
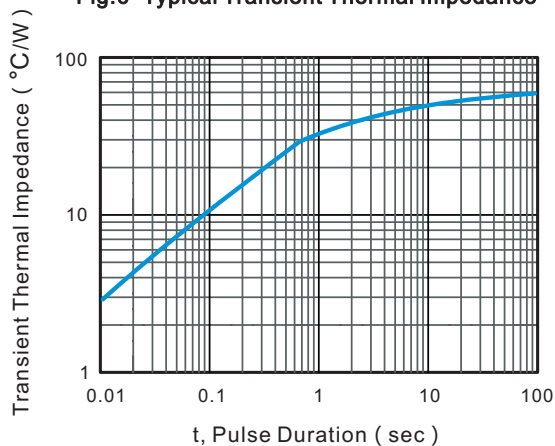


Fig.6 Typical Transient Thermal Impedance

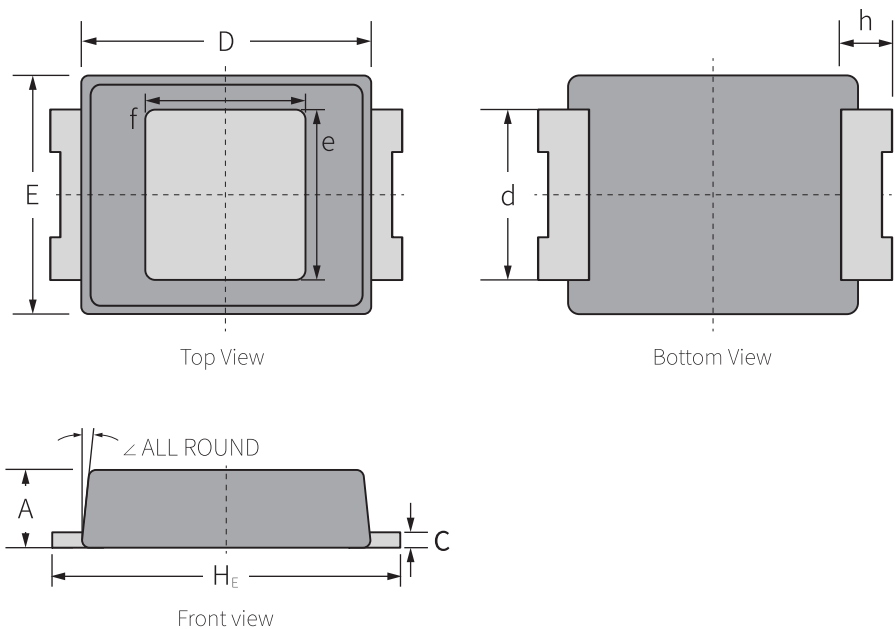




Package Outline

SMHM

Unit : mm

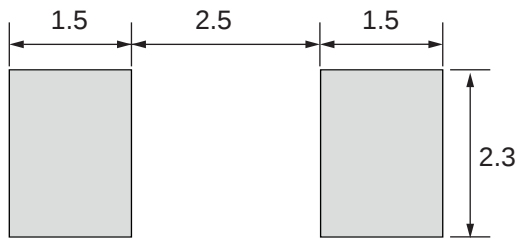


UNIT		A	C	D	E	H _E	d	e	f	h	∠
mm	max	0.99	0.25	3.60	3.00	4.30	2.10	2.10	2.00	0.70	6°
	min	0.83	0.15	3.20	2.60	3.70	1.90	1.90	1.78	0.50	

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.

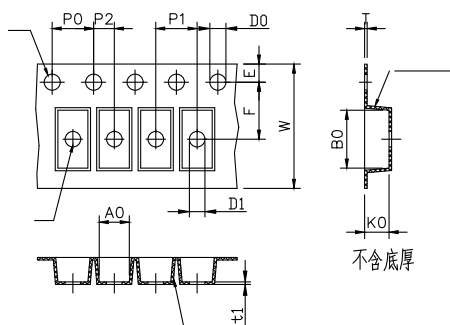


RH52HM THRU RH520HM

Surface Mount Schottky Barrier Rectifier

Carrier Tape Dimensions

Unit : mm

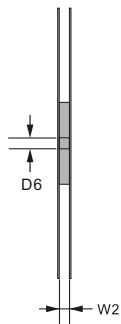
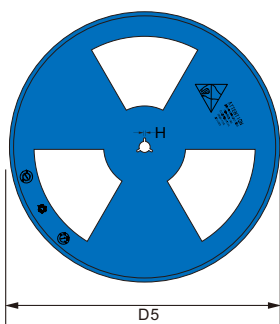


Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.05±0.10
D1	1.50±0.10	B0	4.15±0.10
P0	4.00±0.10	K0	1.15±0.10
P1	4.00±0.10		

Reel Dimensions

Unit : mm

13" Reel

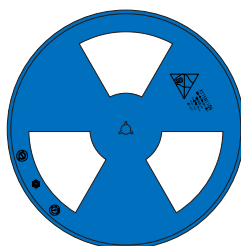


D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 15000PCS	

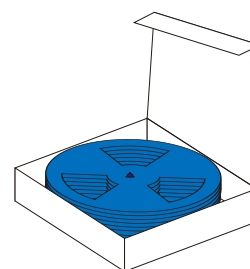
Packaging



15000 PCS/Reel

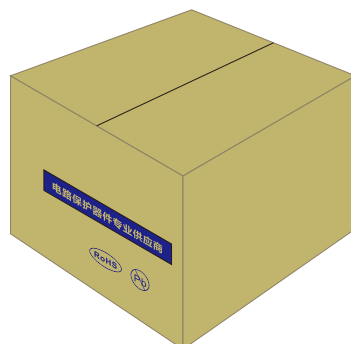


5 Reel/Inner Box
75 KPCS/Inner Box



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

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



4 Boxes per carton
300 KPCS 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.