



MBR140AHE

Surface Mount Schottky Barrier Rectifier

Reverse Voltage - 40V

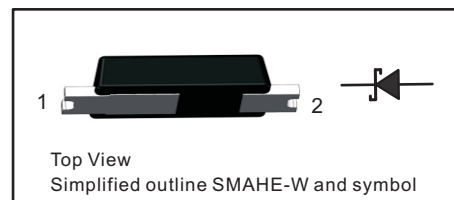
Forward Current - 1.0A

FEATURES

- Metal silicon junction, majority carrier conduction
- For surface mounted applications
- Low power loss, high efficiency
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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, derate by 20 %

Parameter	Symbols	MBR140AHE	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	V
Maximum RMS voltage	V_{RMS}	28	V
Maximum DC Blocking Voltage	V_{DC}	40	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	1.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	15 (Typ)	A
Max Instantaneous Forward Voltage at 0.5 A at 1 A	V_F	0.42 (Typ) 0.51 (Max) 0.53 (Typ) 0.61 (Max)	V
Maximum DC Reverse Current $T_a = 25^{\circ}C$ at Rated DC Reverse Voltage $T_a = 100^{\circ}C$	I_R	0.5 5	mA
Typical Junction Capacitance ⁽¹⁾	C_j	80	pF
Typical Thermal Resistance ⁽²⁾	$R_{\theta JA}$	110	$^{\circ}C/W$
Operating Junction Temperature Range	T_j	-55 ~ +125	$^{\circ}C$
Storage Temperature Range	T_{stg}	-55 ~ +150	$^{\circ}C$

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 3.81 X 3.81 cm copper pad areas.

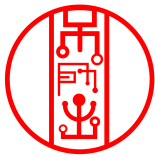


Fig.1 Forward Current Derating Curve

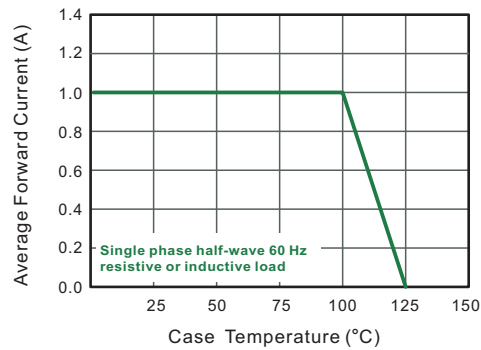


Fig.2 Typical Reverse Characteristics

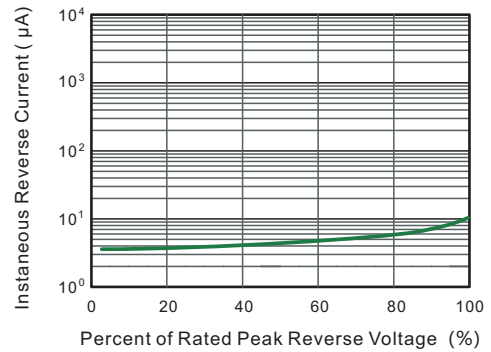


Fig.3 Typical Forward Characteristic

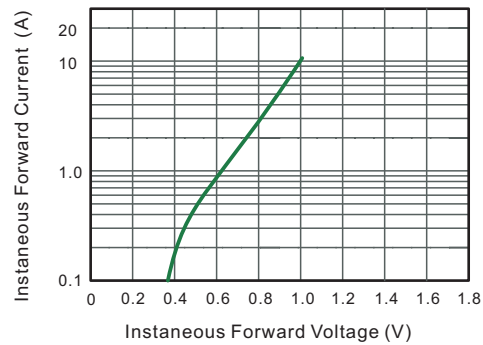


Fig.4 Typical Junction Capacitance

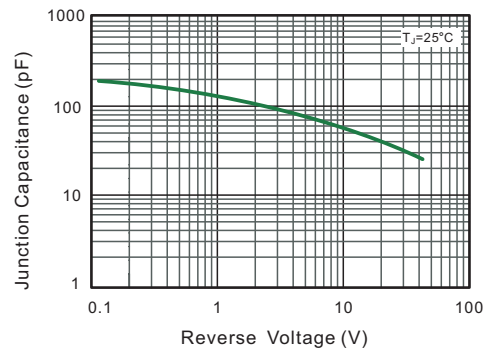


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

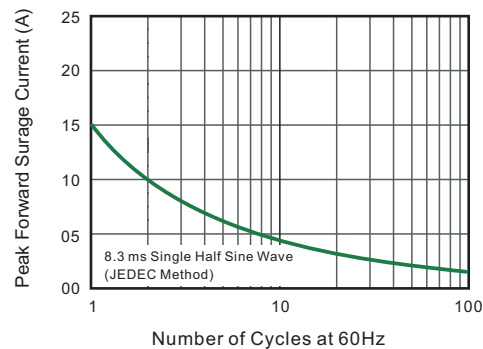
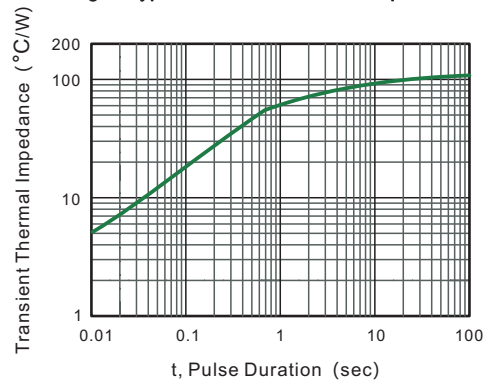


Fig.6- Typical Transient Thermal Impedance



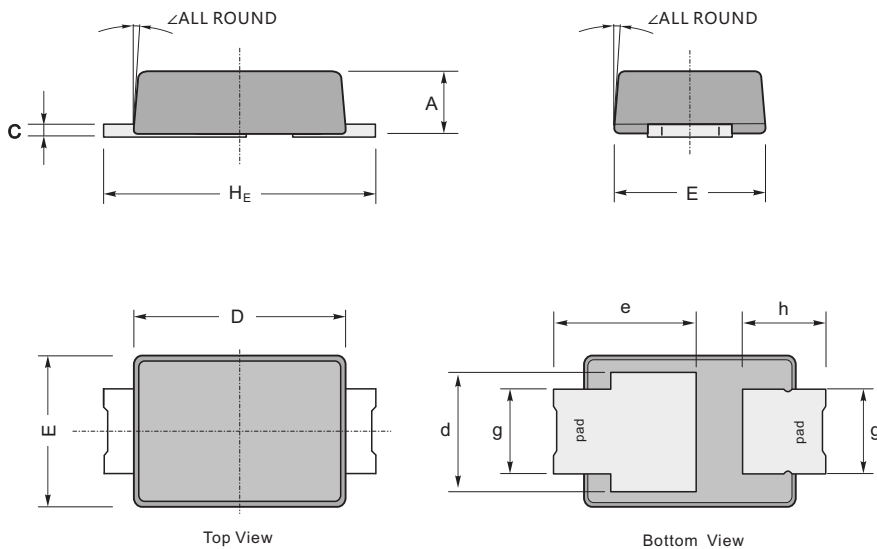


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PACKAGE OUTLINE

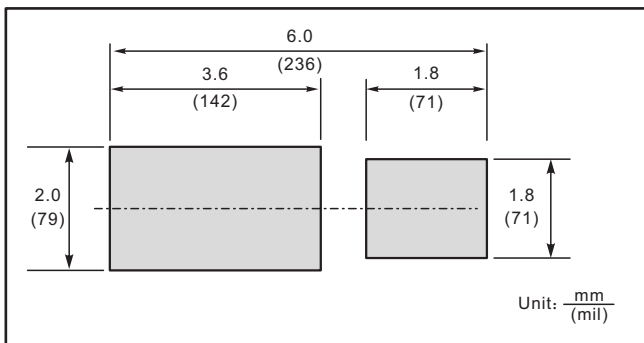
Plastic surface mounted package; 2 leads

SMAHE-W



UNIT		A	C	D	E	H _E	d	e	g	h	∠
mm	max	1.20	0.35	4.10	2.70	5.20	1.90	3.05	1.50	1.2	12°
	min	0.90	0.20	3.70	2.30	4.80	1.70	2.85	1.30	1.0	
mil	max	47	13.8	161	106	205	75	120	59	47	
	min	35	7.9	145	90	189	67	112	51	39	

The recommended mounting pad size



Marking

Type number	Marking code
MBR140AHE	14A