

MBR5H60PC-AU Surface Mount Ultra Low IR Schottky Barrier Rectifier TO-277C 60 V 5 A Voltage Current Features • Low leakage current • Deal for automated placement • Low power loss, high efficiency • High surge current capability • AEC-Q101 qualified Lead free in compliance with EU RoHS 2.0 • Green molding compound as per IEC 61249 standard **Mechanical Data** • Case : TO-277C package • Terminals : Solderable per MIL-STD-750, Method 2026 • Approx. Weight : 0.11 grams

Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS	
Maximum Recurrent Peak Reverse Voltage	Vrrm	60	V	
Maximum RMS Voltage	V _{RMS}	42	V	
Maximum DC Blocking Voltage	VDC	60	V	
Maximum Average Forward Rectified Current	IF(AV)	5	А	
Peak Forward Surge Current : 8.3 ms single half sine- wave superimposed on rated load	I _{FSM}	190	А	
Typical Junction Capacitance Measured at 1 MHZ And Applied $V_R = 4 V$	CJ	250	pF	
(Note 1)	Reja	65		
Typical Thermal Resistance (Note 2)	Rejc	22	°C/W	
(Note 2)	Rejl	15		
Operating Junction Temperature Range	TJ	-55~175	٥C	
Storage Temperature Range	Тѕтс	-55~175	°C	



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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNITS
Forward Voltage	VF	I _F = 1 A, T _J = 25 °C	-	0.52	-	V
		I _F = 3 A, T _J = 25 °C	-	0.61	-	
		I _F = 5 A, T _J = 25 °C	-	-	0.75	
		I _F = 1 A, T _J = 125 °C	-	0.41	-	
		I _F = 3 A, T _J = 125 °C	-	0.51	-	
		$I_F = 5 \text{ A}, T_J = 125 ^{\circ}\text{C}$	-	0.57	-	
Reverse Current	I _R	V _R = 48 V, T _J = 25 °C	-	0.12	-	uA
		V _R = 60 V, T _J = 25 °C	-	-	5	
		V _R = 60 V, T _J = 125 °C	-	-	2.2	mA

NOTES :

- 1. Mounted on a FR4 PCB, single-sided copper, standard footprint.
- 2. Mounted on a FR4 PCB, single-sided copper, with 100 cm² copper pad area.

PΛN

SEMI

6

5

4 3

2 1

0

10000

1000

100

10

1

0.1 0.01

0.001 20

 Percent of Reverse Voltage (%)

 0
 05
 09
 08
 07
 07

0

25

50

75

Fig.5 Operating Temperature Derating Curve

T₁, Junction Temperature (°C)

I_R, Reverse Current (uA)

0

25

T₁ = 175°C

 $T_J = 25^{\circ}C$

40

50

 $T_{J} = 100^{\circ}C$ $T_{J} = 125^{\circ}C$

75

Fig.1 Forward Current Derating Curve

T_C, Case Temperature (°C)

60

Percent of Rated Reverse Voltage (%)

Fig.3 Typical Reverse Characteristics

100 125 150

T_J = 150°C

T_{.1} = -55°C

80

100 125 150 175

100

175

I_F, Forward Current (A)

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TYPICAL CHARACTERISTIC CURVES



1000

100

10

1

10

1

0.1

0.01

0

I_F, Forward Current (A)

0

12

T_J = 175°C

T_J = 150°C

T_J = 125°C

0.2

0.4

Fig.4 Typical Forward Characteristics

24

Fig.2 Typical Junction Capacitance

V_R, Reverse Bias Voltage (V)

36

48

 $T_{J} = 100^{\circ}C$

0.8

1

J = 25°C

T_{.1} = -55°C

0.6

V_F, Forward Voltage (V)

60

C_J, Junction Capacitance (pF)

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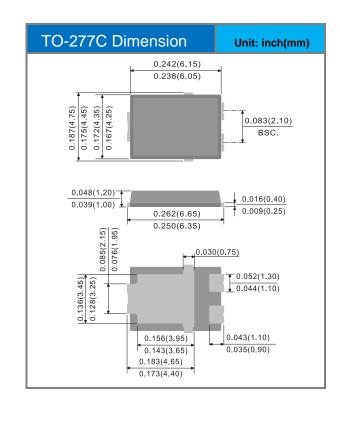


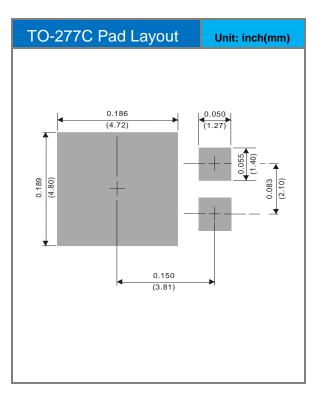
MBR5H60PC-AU

Part No. Packing Code Version

Part No.	Package Type	Packing Type	Marking	Version
MBR5H60PC-AU	TO-277C	5K pcs / 13" reel	MBR5H60PC	Halogen free RoHS compliant

Packaging Information & Mounting Pad Layout







MBR5H60PC-AU

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