



MBR1100

Preliminary

DIODE

1.0A, 100V SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

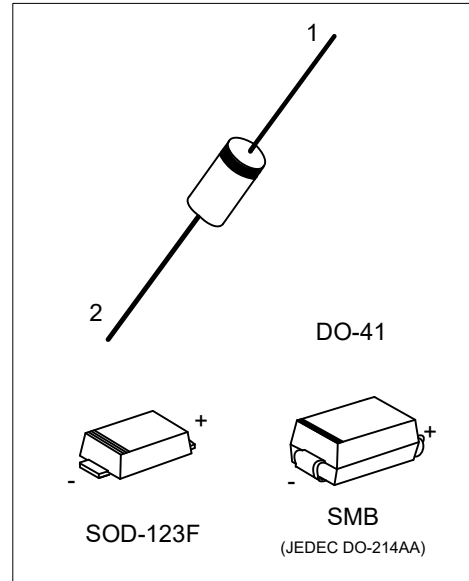
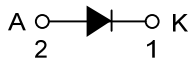
The UTC **MBR1100** is a 1.0A schottky barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop, low reverse current and high efficiency, etc.

The UTC **MBR1100** is suitable for free wheeling diodes, high frequency inverters, low voltage and polarity protection diodes.

FEATURES

- * Low forward voltage drop
- * Low reverse current
- * High surge capacity
- * Low power loss
- * High efficiency

SYMBOL



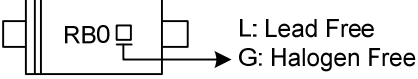
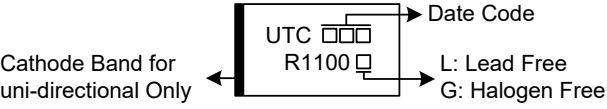
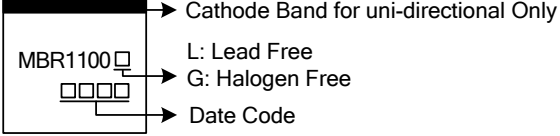
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
MBR1100L-CA2F-R	MBR1100G-CA2F-R	SOD-123F	K	A	Tape Reel
MBR1100L-SMB-R	MBR1100G-SMB-R	SMB	K	A	Tape Reel
MBR1100L-Z41-B	MBR1100G-Z41-B	DO-41	K	A	Tape Box
MBR1100L-Z41-R	MBR1100G-Z41-R	DO-41	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>MBR1100G-CA2F-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel, B: Tape Box (2) CA2F: SOD-123F, SMB: SMB, Z41: DO-41 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING

PACKAGE	MARKING
SOD-123F	 <p>Diagram of an SOD-123F diode with a cathode band on the left. The marking 'RB0' is on the top surface. To the right of the diode, arrows point to 'L: Lead Free' and 'G: Halogen Free'.</p>
SMB	 <p>Diagram of an SMB diode with a cathode band on the left. The marking 'UTC' is on the top surface and 'R1100' is on the bottom surface. To the right, arrows point to 'Date Code' and 'L: Lead Free', 'G: Halogen Free'. An arrow on the left points to the cathode band with the text 'Cathode Band for uni-directional Only'.</p>
DO-41	 <p>Diagram of a DO-41 diode with a cathode band on the top surface. The marking 'MBR1100' is on the top surface and '□□□□' is on the bottom surface. To the right, arrows point to 'Cathode Band for uni-directional Only', 'L: Lead Free', 'G: Halogen Free', and 'Date Code'.</p>

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
DC Blocking Voltage	V_R	100	V
Working Peak Reverse Voltage	V_{RWM}	100	V
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Maximum RMS Reverse Voltage	$V_{R(RMS)}$	70	V
Average Forward Rectified Output Current	I_O	1.0	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave	I_{FSM}	8	A
Voltage Rate of Change (Rated V_R)	dv/dt	10	V/ns
Operating Junction Temperature (Note 1)	T_J	-65 ~ +150	°C
Storage Temperature (Note 1)	T_{STG}	-65 ~ +150	°C

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ THERMAL DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	SOD-123F	θ_{JL}	26 (Note)
	SMB	θ_{JL}	22 (Note)
	DO-41	θ_{JA}	50

Note: FR-4 PCB, 2 oz Copper. Minimum recommended pad layout.

■ ELECTRICAL CHARACTERISTICS (Note 2) ($T_A=25^\circ\text{C}$, unless otherwise noted.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage (Note 2)	V_F	$I_F=1\text{A}, T_L=25^\circ\text{C}$			0.83	V
		$I_F=1\text{A}, T_L=100^\circ\text{C}$			0.73	V
Instantaneous Reverse Current @ Rated dc Voltage (Note 2)	I_R	$T_L=25^\circ\text{C}$			50	μA
		$T_L=100^\circ\text{C}$			5.0	mA

Notes: 1. The heat generated must be less than the thermal conductivity from Junction to Ambient: $P_D/T_J < 1/\theta_{JA}$.

2. Pulse Test: Pulse Width=300 μs , Duty Cycle \leq 2.0%.

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