



MGBR10L100

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

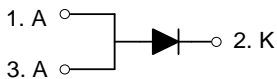

■ DESCRIPTION

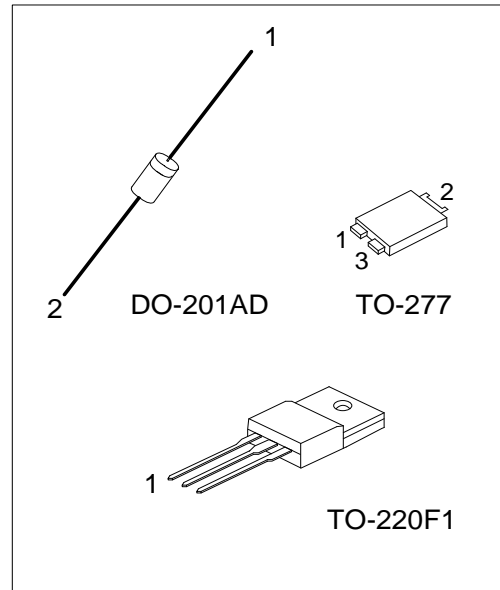
The UTC **MGBR10L100** is a surface mount mos gatedbarrier rectifier,it uses UTC's advanced technology to provide customers withlow forward voltage drop and high switching speed, etc.

■ FEATURES

- * Low forward voltage drop
- * High switching speed

■ SYMBOL

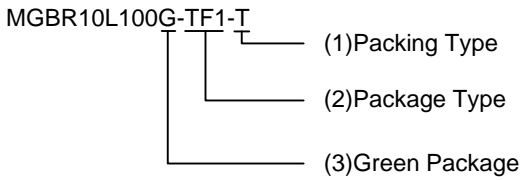
TO-220F1 / TO-277	DO-201AD
	



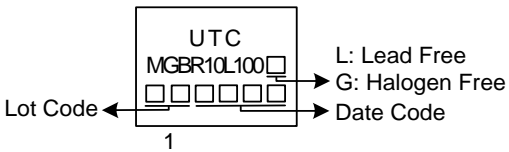
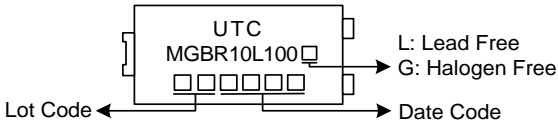
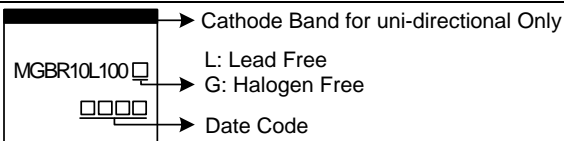
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10L100L-TF1-T	MGBR10L100G-TF1-T	TO-220F1	A	K	A	Tube
MGBR10L100L-T27-R	MGBR10L100G-T27-R	TO-277	A	K	A	Tape Reel
MGBR10L100L-Z21D-B	MGBR10L100G-Z21D-B	DO-201AD	K	A	-	Tape Box
MGBR10L100L-Z21D-R	MGBR10L100G-Z21D-R	DO-201AD	K	A	-	Tape Reel
MGBR10L100L-Z21D-K	MGBR10L100G-Z21D-K	DO-201AD	K	A	-	Bulk

Note: Pin Assignment: A: Anode K: Common Cathode

	<p>(1) T: Tube, R: Tape Reel, B: Tape Box, K: Bulk</p> <p>(2) TF1: TO-220F1, T27: TO-277, Z21D: DO-201AD</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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■ MARKING

PACKAGE	MARKING
TO-220F1	 <p>Lot Code → UTC MGBR10L100 □□□□□ → Date Code 1 L: Lead Free G: Halogen Free</p>
TO-277	 <p>Lot Code → UTC MGBR10L100 □□□□□ → Date Code L: Lead Free G: Halogen Free</p>
DO-201AD	 <p>→ Cathode Band for uni-directional Only MGBR10L100 □□□ → Date Code L: Lead Free G: Halogen Free</p>

■ **ABSOLUTE MAXIMUM RATINGS** ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

PARAMETER	SYMBOL	RATINGS	UNIT
DC Blocking Voltage	V_{RM}	100	V
Working Peak Reverse Voltage	V_{RWM}	100	V
Repetitive Peak Reverse Voltage	V_{RRM}	100	V
Average Rectified Output Current	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	150	A
Operating Junction Temperature	T_J	-65 ~ +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65 ~ +150	$^{\circ}\text{C}$

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 CHARACTERISTICS**

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-220F1	62.5	$^{\circ}\text{C}/\text{W}$
	TO-277	72	$^{\circ}\text{C}/\text{W}$
	DO-201AD	75	$^{\circ}\text{C}/\text{W}$

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

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.5\text{mA}$	100			V
Instantaneous Forward Voltage	V_{FM}	$I_F=3\text{A}, T_J=25^{\circ}\text{C}$		0.58		V
		$I_F=3\text{A}, T_J=125^{\circ}\text{C}$		0.50		V
		$I_F=5\text{A}, T_J=25^{\circ}\text{C}$		0.67		V
		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$		0.55		V
		$I_F=10\text{A}, T_J=25^{\circ}\text{C}$		0.74	0.80	V
		$I_F=10\text{A}, T_J=125^{\circ}\text{C}$		0.61	0.70	V
Leakage Current	I_{RM}	$V_R=100\text{V}, T_J=25^{\circ}\text{C}$			300	μA
		$V_R=100\text{V}, T_J=125^{\circ}\text{C}$			30	mA

Note: Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

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