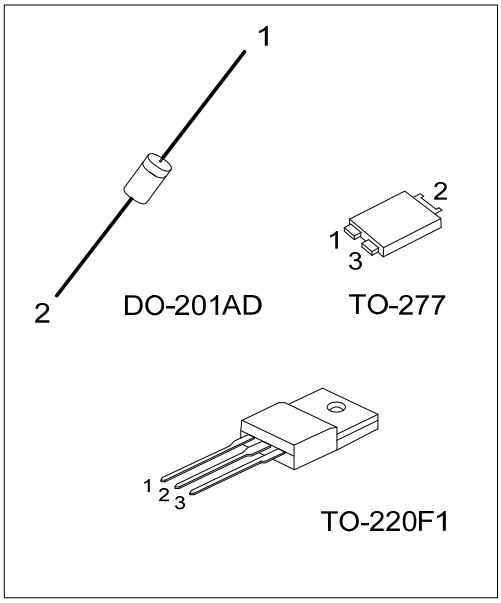
MGBR10L100

DIODE

MOS GATED BARRIER RECTIFIER



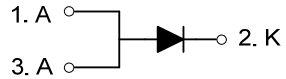
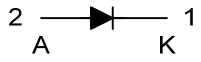
■ DESCRIPTION

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

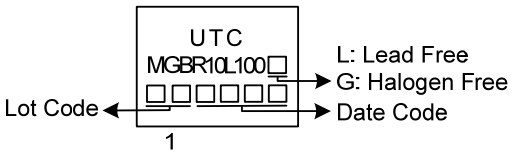
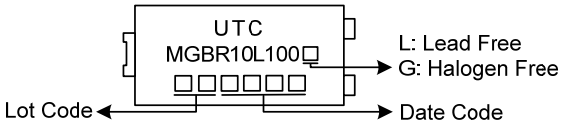
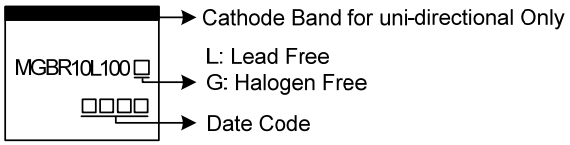
Note: Pin Assignment: A: Anode K: Common Cathode

MGBR10L100G-TF1-T

(1)Packing Type
(2)Package Type
(3)Green Package

(1) T: Tube, R: Tape Reel, B: Tape Box, K: Bulk
(2) TF1: TO-220F1, T27: TO-227, Z21D: DO-201AD
(3) G: Halogen Free and Lead Free, L: Lead Free

■ MARKING

PACKAGE	MARKING
TO-220F1	
TO-277	
DO-201AD	

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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	T_C=140°C	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	°C
Storage Temperature		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 CHARACTERISTICS

PARAMETER		SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-220F1	θ_{JA}	62.5	°C/W
	TO-277		72	°C/W
	DO-201AD		75	°C/W

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

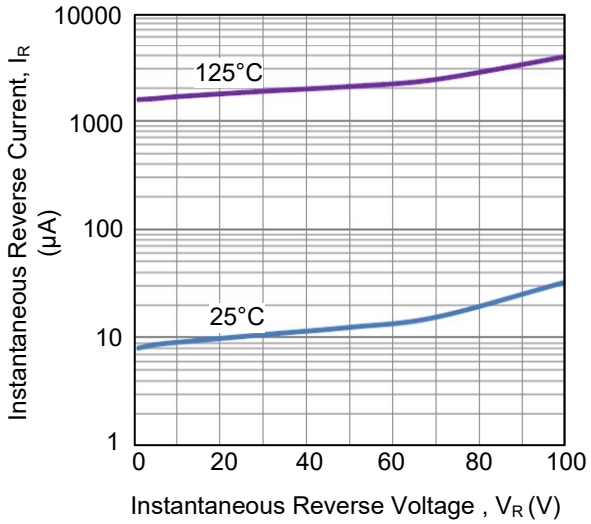
■ ELECTRICAL CHARACTERISTICS(T_A=25°C,unless otherwise specified.)

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

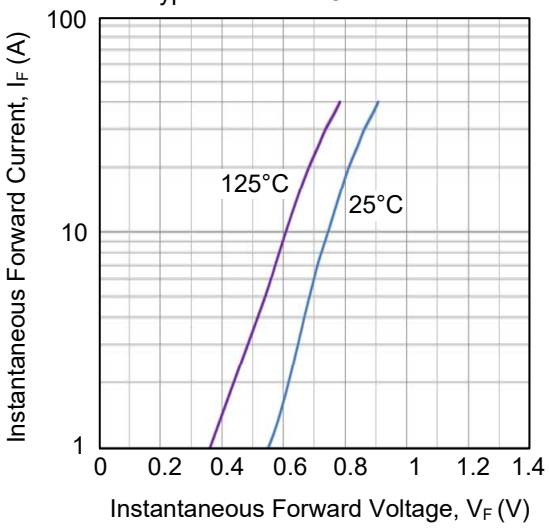
Note: Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%.

■ TYPICAL CHARACTERISTICS

Typical Reverse Characteristics



Typical Forward Characteristics



Forward Derating Curve