



MGBR10L45

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

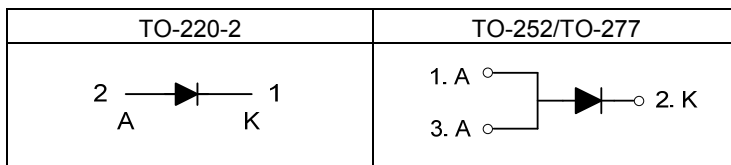
DESCRIPTION

The UTC **MGBR10L45** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

FEATURES

- * Low forward voltage drop
- * High switching speed

SYMBOL

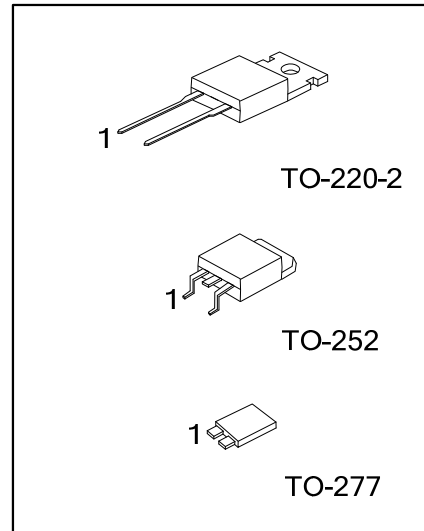


ORDERING INFORMATION

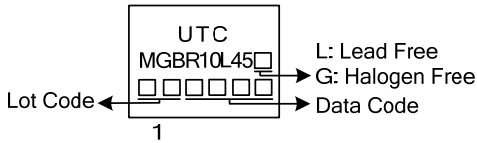
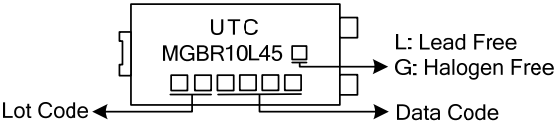
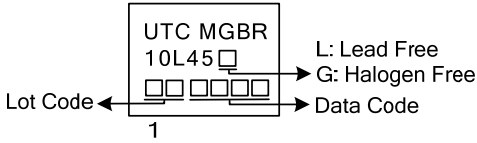
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10L45L-TA2-T	MGBR10L45G-TA2-T	TO-220-2	K	A	-	Tube
MGBR10L45L-TN3-R	MGBR10L45G-TN3-R	TO-252	A	K	A	Tape Reel
MGBR10L45L-T27-R	MGBR10L45G-T27-R	TO-277	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR10L45L-TA2-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA2: TO-220-2, TN3: TO-252, TND: TO-252D T27: TO-277</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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MARKING

PACKAGE	MARKING
TO-220-2	
TO-277	
TO-252	

■ 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}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current	I_O	10	A
$T_C=140^{\circ}\text{C}$			
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	90	A
Repetitive Peak Avalanche Power (1 μs , 25 $^{\circ}\text{C}$)	P_{ARM}	5000	W
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
Junction to Ambient	θ_{JA}	60	$^{\circ}\text{C/W}$
		110	
		73 (Note 3)	
Junction to Case	θ_{JC}	2	$^{\circ}\text{C/W}$
		2.5	
		13 (Note 3)	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=10\text{A}$, $T_J=25^{\circ}\text{C}$			0.58	V
		$I_F=10\text{A}$, $T_J=125^{\circ}\text{C}$			0.53	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}$, $T_J=25^{\circ}\text{C}$		50	300	μA
		$V_R=45\text{V}$, $T_J=125^{\circ}\text{C}$		12	40	mA

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

3. Mounted on an FR4 PCB, single-sided copper, with 100cm² copper pad area.

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