



MGBR10U50

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

■ DESCRIPTION

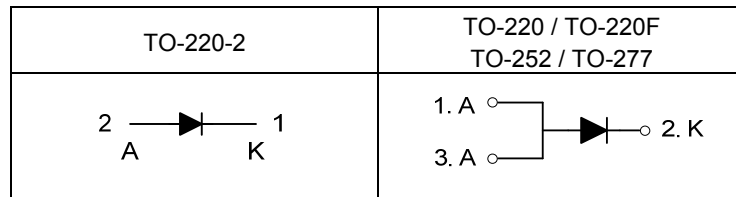
The UTC **MGBR10U50** is a mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **MGBR10U50** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

■ FEATURES

- * Ultra low forward voltage drop
- * High current capability
- * High surge capability
- * High efficiency

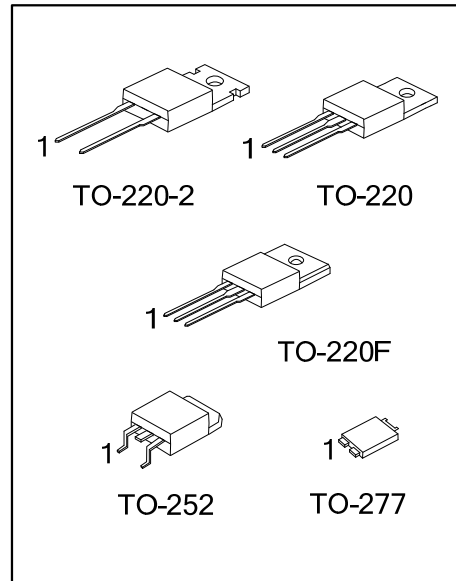
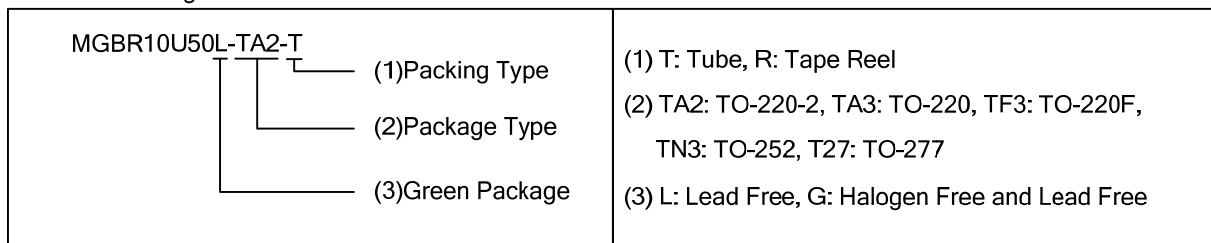
■ SYMBOL



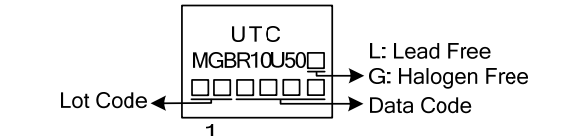
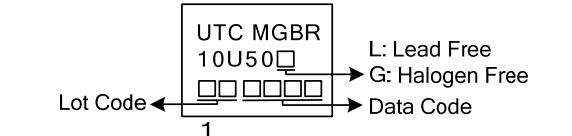
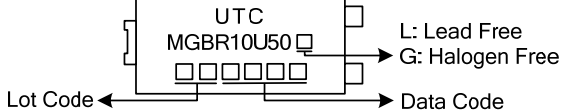
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10U50L-TA2-T	MGBR10U50G-TA2-T	TO-220-2	K	A	-	Tube
MGBR10U50L-TA3-T	MGBR10U50G-TA3-T	TO-220	A	K	A	Tape Reel
MGBR10U50L-TF3-T	MGBR10U50G-TF3-T	TO-220F	A	K	A	Tape Reel
MGBR10U50L-TN3-R	MGBR10U50G-TN3-R	TO-252	A	K	A	Tape Reel
MGBR10U50L-T27-R	MGBR10U50G-T27-R	TO-277	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode



MARKING

PACKAGE	MARKING
TO-220-2 TO-220 TO-220F	
TO252	
TO-277	

■ 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}	50	V
Working Peak Reverse Voltage	V_{RWM}	50	V
Peak Repetitive Reverse Voltage	V_{RRM}	50	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}	180	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 (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-220-2/TO-220	2	$^\circ\text{C}/\text{W}$
	TO-220F	4	
	TO-252	6	
	TO-277	72 (Note 2)	
	θ_{JC}		
	θ_{JA}		

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.50\text{mA}$	50			V
Instantaneous Forward Voltage	V_{FM}	$I_F=10\text{A}, T_C=25^\circ\text{C}$			0.45	V
		$I_F=10\text{A}, T_C=125^\circ\text{C}$			0.40	V
Leakage Current	I_{RM}	$V_R=50\text{V}, T_C=25^\circ\text{C}$			500	μA
		$V_R=50\text{V}, T_C=125^\circ\text{C}$			40	mA

Notes: 1. Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

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

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