



MGBR20U50

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

DESCRIPTION

The UTC **MGBR20U50** 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.

The UTC **MGBR20U50** suitable for supply applications.

FEATURES

- * Ultra low forward voltage drop
- * High switching speed

SYMBOL

A  K

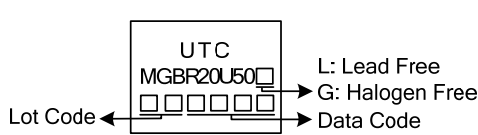
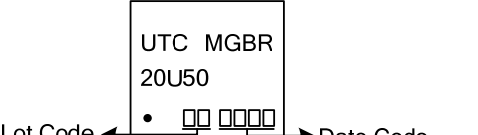
ORDERING INFORMATION

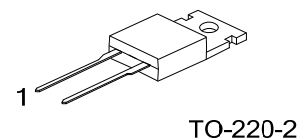
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
MGBR20U50L-TA2-T	MGBR20U50G-TA2-T	TO-220-2	K	A	-	-	-	-	-	-	Tube
MGBR20U50L-K08-5060-R	MGBR20U50G-K08-5060-R	DFN5060-8	A	A	A	NC	K	K	K	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

MGBR20U50G-TA2-T	(1)Packing Type	(1) T: Tube, R: Tape Reel
	(2)Package Type	(2) TA2: TO-220-2, K08-5060: DFN5060-8
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

MARKING

TO-220-2	DFN5060-8
 <p>UTC MGBR20U50□ □□□□□□ Lot Code ← □ → Data Code</p> <p>1</p> <p>L: Lead Free G: Halogen Free</p>	 <p>UTC MGBR 20U50 • □□ □□□□ Lot Code ← □ → Date Code</p>



TO-220-2



DFN5060-8

■ 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 Forward Current (Rated VR-20Khz Square Wave) - 50% Duty Cycle	I_O	20	A
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	300	A
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2	A
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10000	V/ μ S
Operating Junction Temperature	T_J	-65 ~ +150	$^{\circ}\text{C}$
Storage Junction 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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220-2	60	$^{\circ}\text{C/W}$
	DFN5060-8	72	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	50			V
Forward Voltage	V_{FM}	$I_F=20\text{A}, T_J=25^{\circ}\text{C}$			0.48	V
		$I_F=20\text{A}, T_J=125^{\circ}\text{C}$			0.43	V
Reverse Current (Note 1)	I_{RM}	$V_R=50\text{V}, T_J=25^{\circ}\text{C}$			500	μA
		$V_R=50\text{V}, T_J=125^{\circ}\text{C}$			100	mA

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

2. Thermal resistance junction to case mounted on heatsink.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.