



MGBR20U50

Preliminary

DIODE

**MOS GATED BARRIER
RECTIFIER**

■ DESCRIPTION

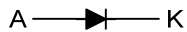
The UTC **MGBR20U50** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed etc.

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

■ FEATURES

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

■ SYMBOL

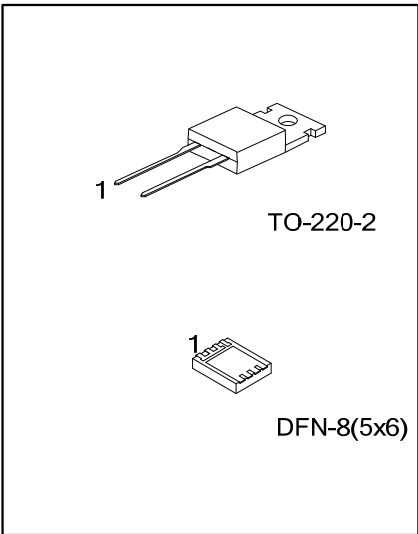


■ ORDERING INFORMATION

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	DFN-8(5x6)	A	A	A	NC	K	K	K	K	Tape Reel

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

<p>MGBR20U50L-TA2-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Free</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA2: TO-220-2, K08-5060: DFN-8(5x6)</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ 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	θ_{JA}	60	$^\circ\text{C/W}$
		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.

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