



MGBR10S50

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

■ DESCRIPTION

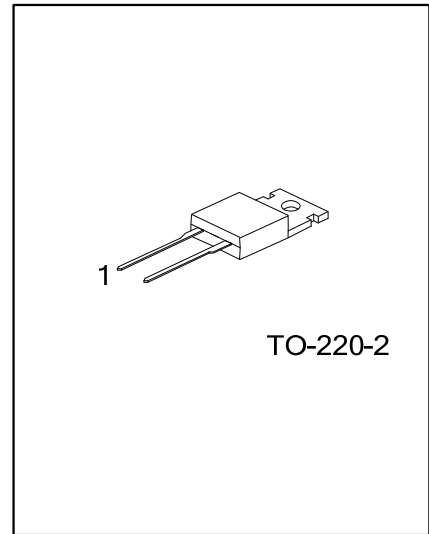
The UTC **MGBR10S50** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **MGBR10S50** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

■ FEATURES

- * Super 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	
MGBR10S50L-TA2-T	MGBR10S50G-TA2-T	TO-220-2	K	A	Tube

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

<p>MGBR10S50L-TA2-T</p>	<p>(1) T: Tube</p> <p>(2) TA2: TO-220-2</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ MARKING INFORMATION

PACKAGE	MARKING
TO-220-2	<p>UTC MGBR10S50 □ □ □ □</p> <p>Lot Code ← → Data Code</p> <p>1</p> <p>L: Lead Free G: Halogen Free</p>

■ 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 (Note 1)	V_{RM}	50	V
Working Peak Reverse Voltage	V_{RWM}	50	V
Peak Repetitive Reverse Voltage	V_{RRM}	50	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	V
Average Rectified Output Current $T_C=125^\circ\text{C}$	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	150	A
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	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	2	$^\circ\text{C/W}$

■ 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 Drop	V_{FM}	$I_F=10\text{A}$, $T_C=25^\circ\text{C}$			0.50	V
		$I_F=10\text{A}$, $T_C=125^\circ\text{C}$			0.45	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 1)	I_{RM}	$V_R=50\text{V}$, $T_C=25^\circ\text{C}$			500	μA
		$V_R=50\text{V}$, $T_C=125^\circ\text{C}$			25	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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