



MGBR20V50

DIODE

MOS GATED BARRIER RECTIFIER

DESCRIPTION

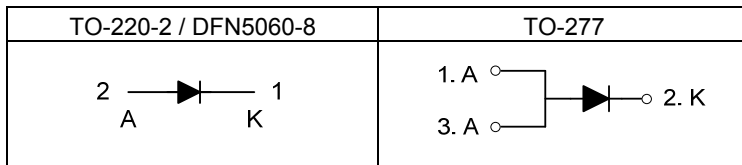
The UTC **MGBR20V50** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed etc.

The UTC **MGBR20V50** suitable for supply applications.

FEATURES

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

SYMBOL

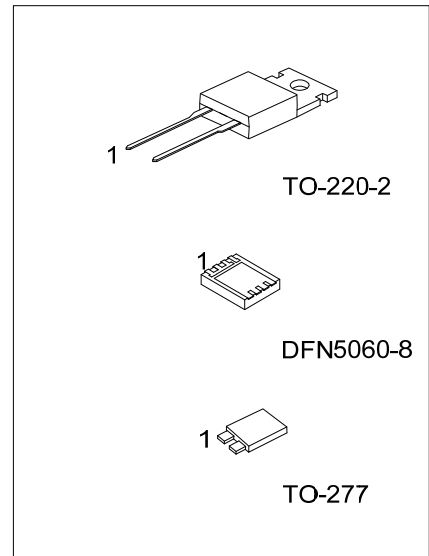


ORDERING INFORMATION

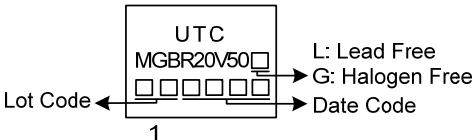
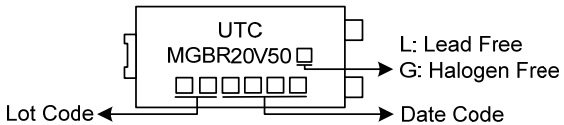
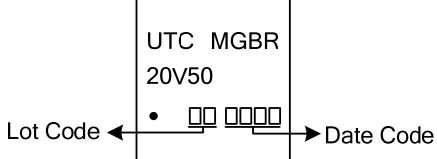
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
MGBR20V50L-TA2-T	MGBR20V50G-TA2-T	TO-220-2	K	A	-	-	-	-	-	-	Tube
MGBR20V50L-T27-R	MGBR20V50G-T27-R	TO-277	A	K	A	-	-	-	-	-	Tape Reel
MGBR20V50G-K08-5060-R	MGBR20V50G-K08-5060-R	DFN5060-8	A	A	A	NC	K	K	K	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR20V50G-TA2-T</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA2: TO-220-2, T27: TO-277, K08-5060: DFN5060-8</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
-------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------



■ MARKING

PACKAGE	MARKING
TO-220-2	 <p>UTC MGBR20V50 □ Lot Code ← □ □ □ □ □ → Date Code 1</p> <p>L: Lead Free G: Halogen Free</p>
TO-277	 <p>UTC MGBR20V50 □ Lot Code ← □ □ □ □ □ → Date Code</p> <p>L: Lead Free G: Halogen Free</p>
DFN5060-8	 <p>UTC MGBR 20V50 Lot Code ← • □ □ □ □ → Date Code</p>

■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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 _{RPM}	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}	250	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/μS
Operating Junction Temperature	T _J	-65 ~ +150	°C
Storage Junction Temperature	T _{STG}	-65 ~ +150	°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	°C/W
	TO-277	73 (Note)	
	DFN5060-8	72	

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

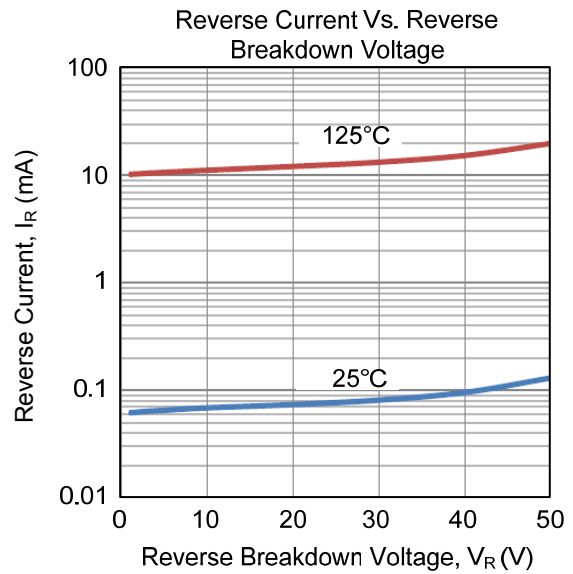
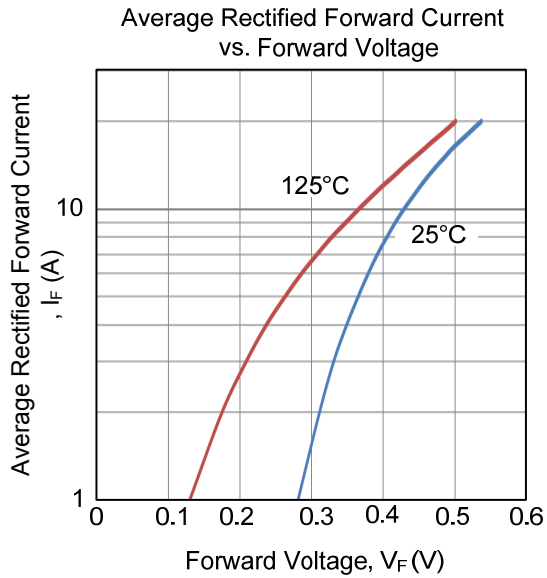
■ ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	I _R =0.50mA	50			V
Forward Voltage	V _F	I _F =1A, T _J =25°C		0.29		V
		I _F =1A, T _J =125°C		0.18		V
		I _F =5A, T _J =25°C		0.40		V
		I _F =5A, T _J =125°C		0.28		V
		I _F =10A, T _J =25°C		0.44		V
		I _F =10A, T _J =125°C		0.36		V
		I _F =20A, T _J =25°C		0.54	0.58	V
		I _F =20A, T _J =125°C		0.51	0.53	V
Reverse Current (Note 1)	I _{RM}	V _R =50V, T _J =25°C		150	500	μA
		V _R =50V, T _J =125°C		20	100	mA

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

2. Thermal resistance junction to case mounted on heatsink.

■ TYPICAL CHARACTERISTICS



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. UTC reserves the right to make changes to information published in this document, including without limitation specifications and product descriptions, at any time and without notice. This document supersedes and replaces all information supplied prior to the publication hereof.