



## MGBR20L60

Preliminary

DIODE

## MOS GATED BARRIER RECTIFIER

### DESCRIPTION

The UTC **MGBR20L60** is a surface mount mos gatedbarrier rectifier,it uses UTC's advanced technology to provide customers withlow forward voltage drop and high switching speed, etc.

### FEATURES

- \* Low forward voltage drop
- \* High switching speed

### SYMBOL

TO-277	DFN5060-8

### ORDERING INFORMATION

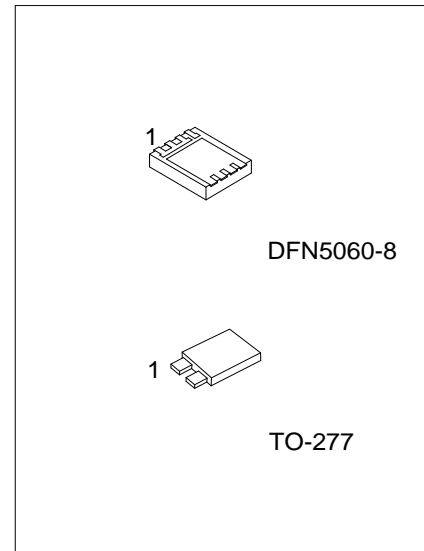
Ordering Number		Package	Pin Assignment								Packing
Lead Free	Halogen Free		1	2	3	4	5	6	7	8	
MGBR20L60L-T27-R	MGBR20L60G-T27-R	TO-277	A	K	A	-	-	-	-	-	Tape Reel
MGBR20L60L-K08-6060-R	MGBR20L60G-K08-6060-R	DFN5060-8	A	A	A	NC	K	K	K	K	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR20L60G-T27-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) T27: TO-277, K08-5060: DFN5060-8</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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### MARKING

TO-277	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	$V_{RM}$	60	V
Working Peak Reverse Voltage	$V_{RWM}$	60	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	60	V
Average Rectified Output Current $T_C=140^{\circ}\text{C}$	$I_O$	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	250	A
Repetitive Peak Avalanche Power (1 $\mu\text{s}$ , $25^{\circ}\text{C}$ )	$P_{ARM}$	5000	W
Operating Junction Temperature	$T_J$	$-65 \sim +150$	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	$-65 \sim +150$	$^{\circ}\text{C}$

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 (Note)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-277	73	$^{\circ}\text{C/W}$
	DFN5060-8	72	$^{\circ}\text{C/W}$
Junction to Case	TO-277	13	$^{\circ}\text{C/W}$
	DFN5060-8	3.4	$^{\circ}\text{C/W}$

Note: Mounted on an FR4 PCB, single-sided copper, with 100  $\text{cm}^2$  copper pad area.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	60			V
Forward Voltage Drop	$V_{FM}$	$I_F=20\text{A}$ , $T_J=25^{\circ}\text{C}$			0.65	V
		$I_F=20\text{A}$ , $T_J=125^{\circ}\text{C}$			0.60	V
Leakage Current (Note 1)	$I_{RM}$	$V_R=60\text{V}$ , $T_J=25^{\circ}\text{C}$		85	300	$\mu\text{A}$
		$V_R=60\text{V}$ , $T_J=125^{\circ}\text{C}$		12	40	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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