



## MGBR5U40

Preliminary

DIODE

### MOS GATED BARRIER RECTIFIER

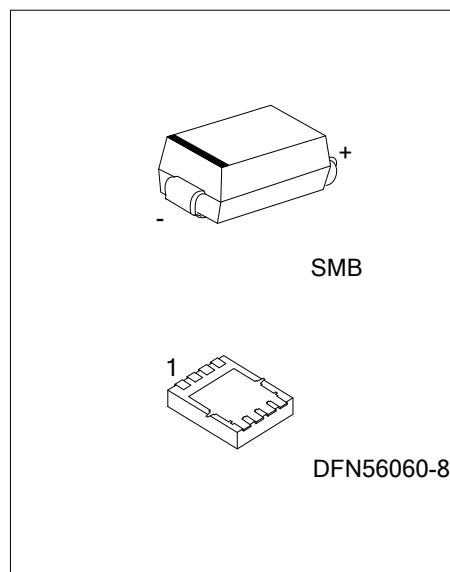
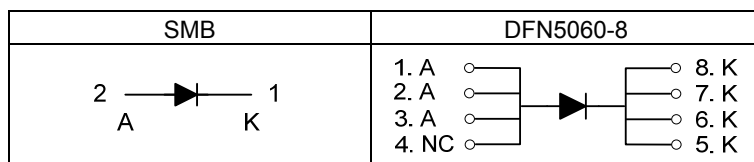
#### DESCRIPTION

The UTC **MGBR5U40** 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.

#### 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	
MGBR5U40L-SMB-R	MGBR5U40G-SMB-R	SMB	K	A	-	-	-	-	-	-	Tape Reel
MGBR5U40L-K08-5060-R	MGBR5U40G-K08-5060-R	DFN5060-8	A	A	A	NC	K	K	K	K	Tape Reel

Note: Pin Assignment: A: Anode K: Common Cathode NC: No C

<p>MGBR5U40G-SMB-R</p>	<p>(1) R: Tape Reel</p> <p>(2) SMB: SMB, K08-5060: DFN5060-8</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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#### MARKING

SMB	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	$V_{RM}$	40	V
Working Peak Reverse Voltage	$V_{RWM}$	40	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
Average Rectified Output Current	$I_O$	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	120	A
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 CHARACTERISTICS (PER LEG)

PARAMETER		SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	SMB	$\theta_{JL}$	20	$^{\circ}\text{C/W}$
	DFN5060-8		72 (Note)	$^{\circ}\text{C/W}$

Note: FR-4 PCB, 2 oz Copper. Minimum recommended pad layout.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.5\text{mA}$	40			V
Instantaneous Forward Voltage	$V_{FM}$	$I_F=5\text{A}$ , $T_J=25^{\circ}\text{C}$			0.43	V
		$I_F=5\text{A}$ , $T_J=125^{\circ}\text{C}$			0.39	V
Leakage Current	$I_{RM}$	$V_R=40\text{V}$ , $T_J=25^{\circ}\text{C}$			500	$\mu\text{A}$
		$V_R=40\text{V}$ , $T_J=125^{\circ}\text{C}$			100	mA

Note: Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$ .

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