



MGBR5U45

DIODE

MOS GATED BARRIER RECTIFIER

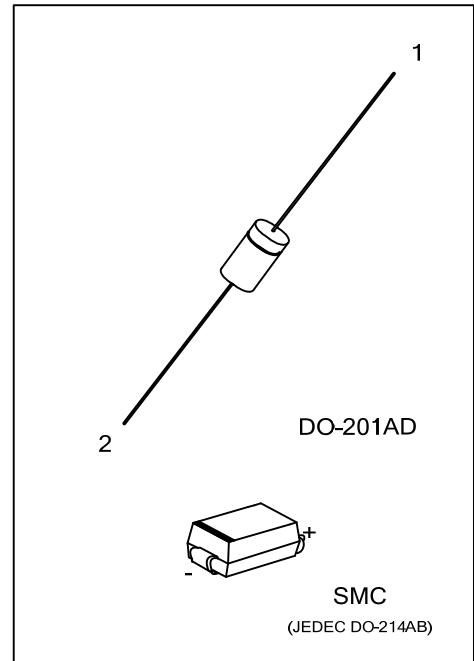
DESCRIPTION

The UTC **MGBR5U45** 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	
MGBR5U45L-Z21D-R	MGBR5U45G-Z21D-R	DO-201AD	K	A	Tape Box
MGBR5U45L-SMC-R	MGBR5U45G-SMC-R	SMC	K	A	Tape Reel

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

<p>MGBR5U45L-Z21D-B</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) B: Tape Box, R: Tape Reel (2) Z21D: DO-201AD, SMC: SMC (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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MARKING

DO-201AD	SMC
<p>MGBR5U45</p> <p>→ Cathode Band for uni-directional Only → L: Lead Free → G: Halogen Free → Date Code</p>	<p>UTC</p> <p>→ Date Code → L: Lead Free → G: Halogen Free</p> <p>← Cathode Band for uni-directional Only</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	V_{RM}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	V
Average Rectified Output Current $T_C=140^{\circ}\text{C}$	I_O	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	200	A
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 RESISTANCES CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	75	$^{\circ}\text{C/W}$
Junction to Case	DO-201AD	15	$^{\circ}\text{C/W}$
	SMC	35	$^{\circ}\text{C/W}$

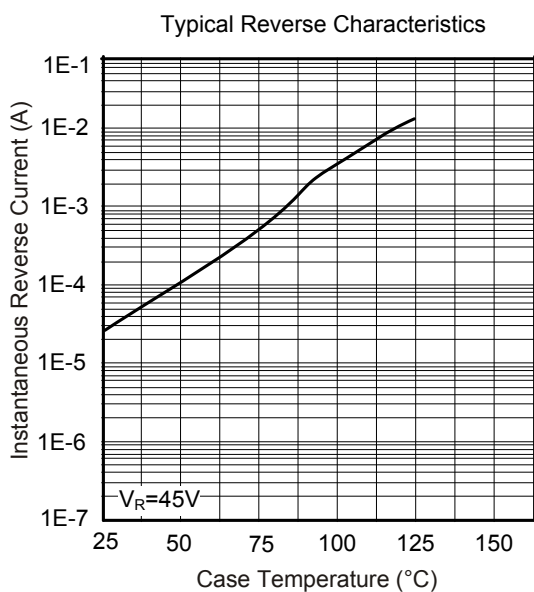
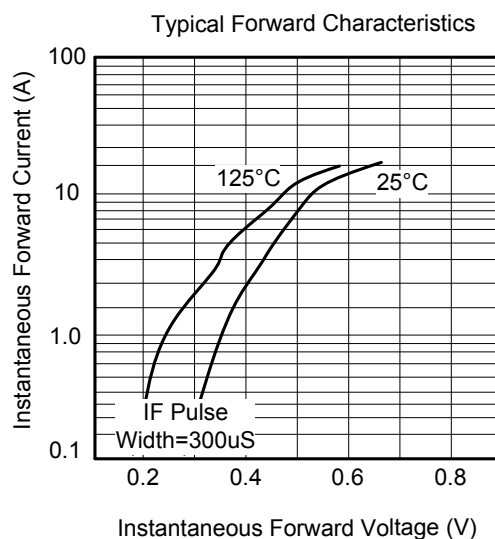
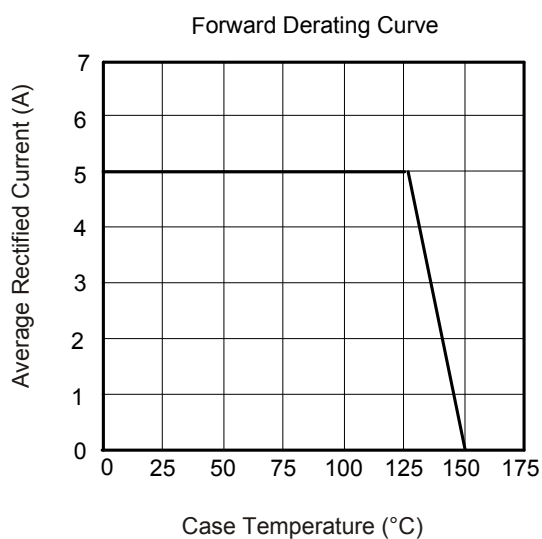
■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Instantaneous Forward Voltage	V_{FM}	$I_F=5\text{A}$, $T_J=25^{\circ}\text{C}$			0.43	V
		$I_F=5\text{A}$, $T_J=125^{\circ}\text{C}$			0.40	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}$, $T_J=25^{\circ}\text{C}$			500	μA
		$V_R=45\text{V}$, $T_J=125^{\circ}\text{C}$			100	mA

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

2. Thermal resistance junction to case mounted on heatsink.

TYPICAL CHARACTERISTICS



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