



MGBR15V45

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

DESCRIPTION

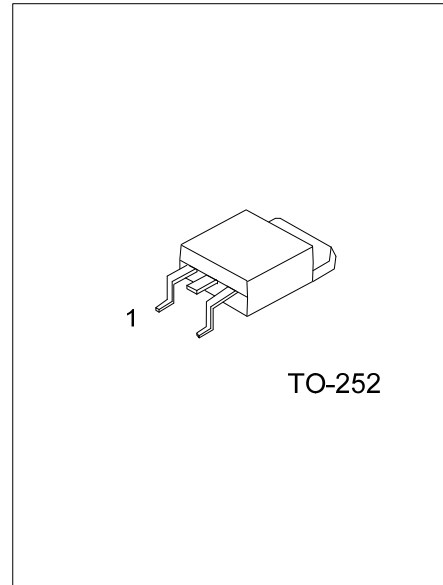
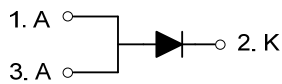
The UTC **MGBR15V45** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **MGBR15V45** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

FEATURES

- * Very low forward voltage drop
- * High current capability
- * High surge capability
- * High efficiency

SYMBOL



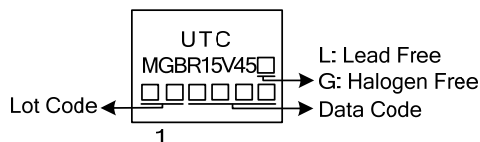
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR15V45L-TN3-R	MGBR15V45G-TN3-R	TO-252	A	K	A	Tape Reel

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

<p>MGBR15V45L-TN3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) R: Tape Reel</p> <p>(2) TN3: TO-252</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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MARKING



■ 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}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current	I_O	15	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	180	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 CHARACTERISTICS

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	110	$^\circ\text{C/W}$
Junction to Case	θ_{JC}	2.5	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=15\text{A}, T_C=25^\circ\text{C}$			0.55	V
		$I_F=15\text{A}, T_C=125^\circ\text{C}$			0.50	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 1)	I_{RM}	$V_R=45\text{V}, T_C=25^\circ\text{C}$			500	μA
		$V_R=45\text{V}, T_C=125^\circ\text{C}$		12	40	mA

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

2. Thermal resistance junction to case mounted on heatsink.

3. Mounted on an FR4 PCB, single-sided copper, with 100cm^2 copper pad area.

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