



MGBR5V45

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

DESCRIPTION

The UTC **MGBR5V45** 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

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

SYMBOL



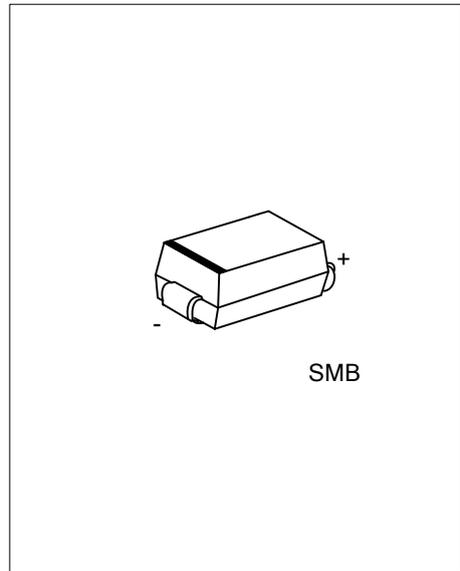
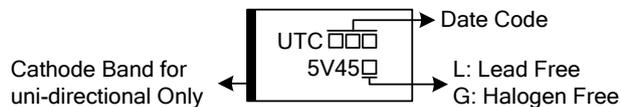
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
MGBR5V45L-SMB-R	MGBR5V45G-SMB-R	SMB	K	A	Tape Reel

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

MGBR5V45L-SMB-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) SMB: SMB
	(3)Green Package	(3) L: Lead Free, G: Halogen Free and Lead Free

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	V_{RM}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	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}	90	A
Repetitive Peak Avalanche Power (1 μ s, 25 $^\circ\text{C}$)	P_{ARM}	5000	W
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}	70	$^\circ\text{C}/\text{W}$

■ 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}	$I_F=5\text{A}, T_J=25^\circ\text{C}$			0.61	V
		$I_F=5\text{A}, T_J=125^\circ\text{C}$			0.58	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}, T_J=25^\circ\text{C}$		50	500	μA
		$V_R=45\text{V}, T_J=125^\circ\text{C}$		12	15	mA
Total Capacitance	C_T	$V_R=5\text{V}, f=1\text{MHz}, T_J=25^\circ\text{C}$		400		pF

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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