



MGBR10V45

DIODE

MOS GATED BARRIER RECTIFIER

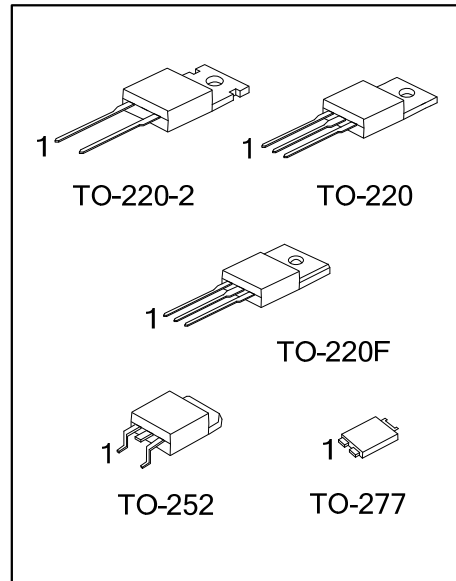
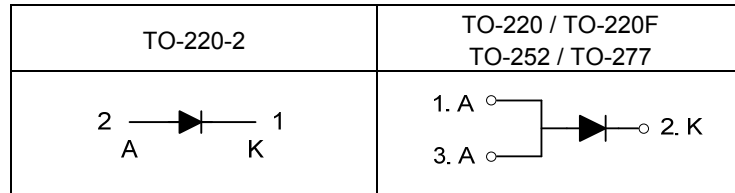
DESCRIPTION

The UTC **MGBR10V45** 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

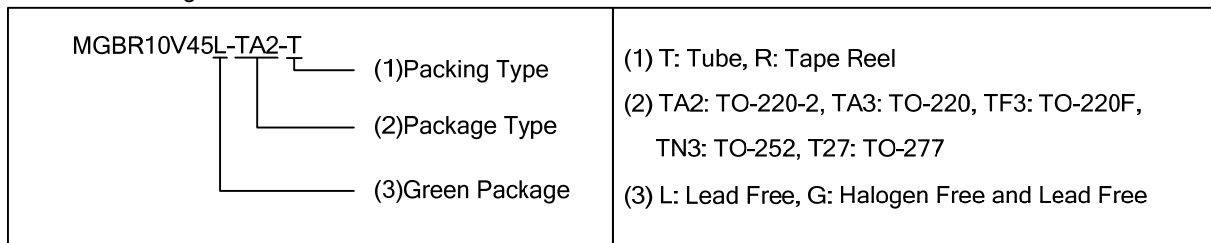
SYMBOL



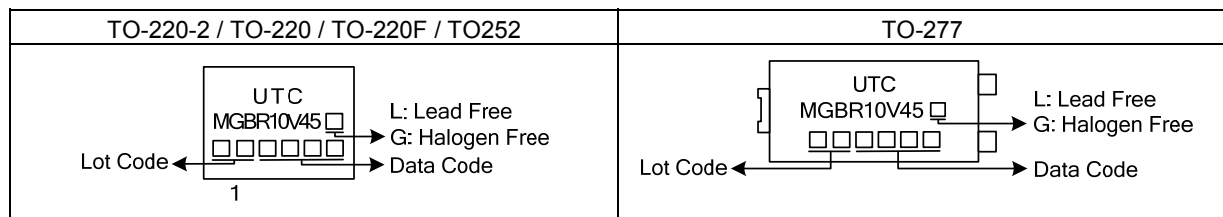
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10V45L-TA2-T	MGBR10V45G-TA2-T	TO-220-2	K	A	-	Tube
MGBR10V45L-TA3-T	MGBR10V45G-TA3-T	TO-220	A	K	A	Tape Reel
MGBR10V45L-TF3-T	MGBR10V45G-TF3-T	TO-220F	A	K	A	Tape Reel
MGBR10V45L-TN3-R	MGBR10V45G-TN3-R	TO-252	A	K	A	Tape Reel
MGBR10V45L-T27-R	MGBR10V45G-T27-R	TO-277	A	K	A	Tape Reel

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



MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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
Peak Repetitive Reverse Voltage	V _{RRM}	45	V
RMS Reverse Voltage	V _{R(RMS)}	32	V
Average Rectified Output Current	I _O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I _{FSM}	150	A
Operating Junction Temperature	T _J	-65~+150	°C
Storage Temperature	T _{STG}	-65~+150	°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}	60	°C/W
		110	
		73 (Note 3)	
Junction to Case	θ _{JC}	2	°C/W
		3.31	
		2.5	
		13 (Note 3)	

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	I _R =0.5mA	45			V
Instantaneous Forward Voltage	V _{FM}	I _F =10A, T _J =25°C			0.53	V
		I _F =10A, T _J =125°C			0.48	V
Leakage Current (Note 1)	I _{RM}	V _R =45V, T _J =25°C		50	500	µA
		V _R =45V, T _J =125°C		12	40	mA
Total Capacitance	C _T	V _R =5V, f=1MHz, T _J =25°C		400		pF

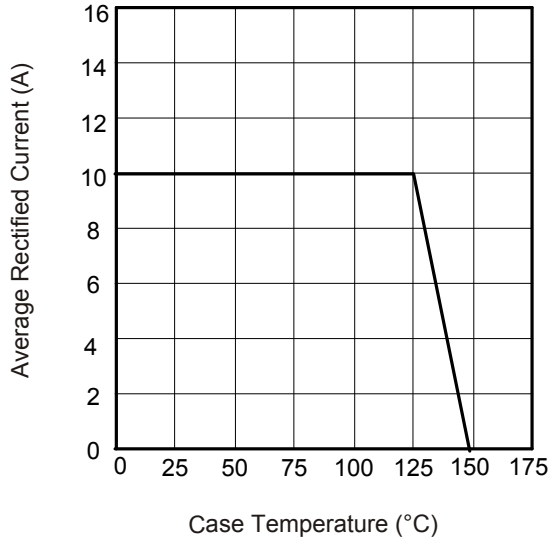
Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

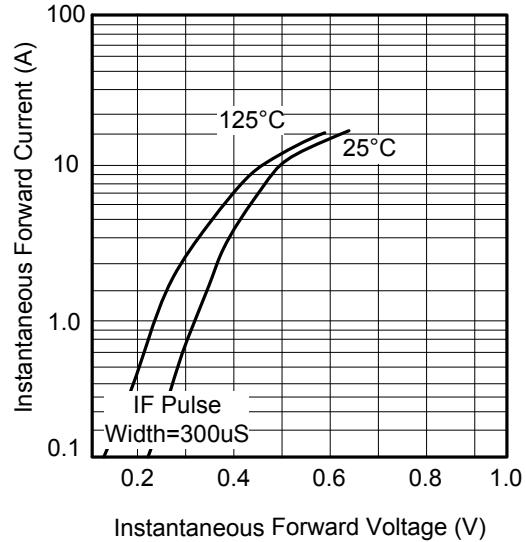
3. Mounted on an FR4 PCB, single-sided copper, with 100cm² copper pad area.

■ TYPICAL CHARACTERISTICS

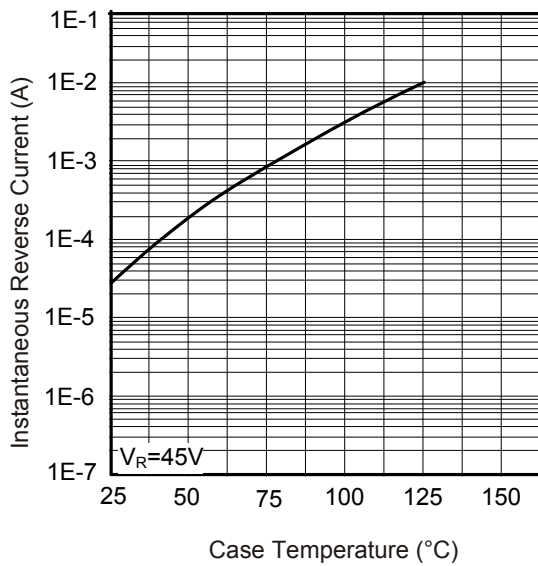
Forward Derating Curve



Typical Forward Characteristics



Typical Reverse Characteristics



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