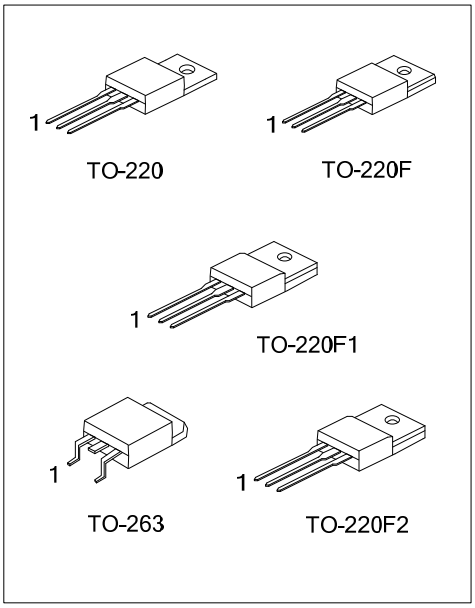
MGBR20L300

DIODE

MOS GATED BARRIER RECTIFIER



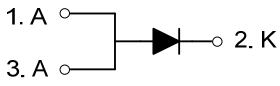
■ DESCRIPTION

The UTC **MGBR20L300** is a surface mount mos gatedbarrier rectifier,it uses UTC's advanced technology to provide customers withlow forward voltage drop and high switching speed, etc.

■ FEATURES

* Low forward voltage drop
* High switching speed

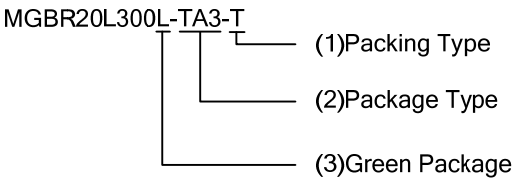
■ SYMBOL



■ ORDERING INFORMATION

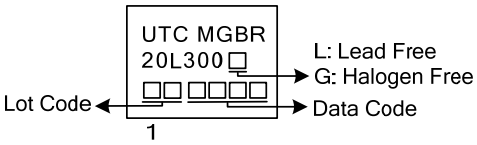
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20L300L-TA3-T	MGBR20L300G-TA3-T	TO-220	A	K	A	Tube
MGBR20L300L-TF3-T	MGBR20L300G-TF3-T	TO-220F	A	K	A	Tube
MGBR20L300L-TF1-T	MGBR20L300G-TF1-T	TO-220F1	A	K	A	Tube
MGBR20L300L-TF2-T	MGBR20L300G-TF2-T	TO-220F2	A	K	A	Tube
MGBR20L300L-TQ2-T	MGBR20L300G-TQ2-T	TO-263	A	K	A	Tube
MGBR20L300L-TQ2-R	MGBR20L300G-TQ2-R	TO-263	A	K	A	Tape Reel

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



(1) T: Tube, R: Tape Reel
(2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1
TF2: TO-220F2, TQ2: TO-263
(3) L: Lead Free, G: Halogen Free and Lead Free

■ 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}	300	V
Working Peak Reverse Voltage		V_{RWM}	300	V
Peak Repetitive Reverse Voltage		V_{RRM}	300	V
Average Rectified Output Current	T_C=140°C	I_O	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	235	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 (Note 3)

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient		θ_{JA}	62.5	°C/W
Junction to Case	TO-220/TO-263	θ_{JC}	2	°C/W
	TO-220F/TO-220F1 TO-220F2		4	

■ 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	300			V
Forward Voltage Drop	V_{FM}	I_F=20A, T_J=25°C		0.88	0.92	V
		I_F=20A, T_J=125°C		0.80	0.81	V
Leakage Current (Note 1)	I_{RM}	V_R=300V, T_J=25°C			100	μA
		V_R=300V, T_J=125°C			10	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 100 cm^2 copper pad area.

■ TYPICAL CHARACTERISTICS