



## TGBR20S45C

Preliminary

DIODE

### DUAL TRENCH MOS SCHOTTKY BARRIER RECTIFIER

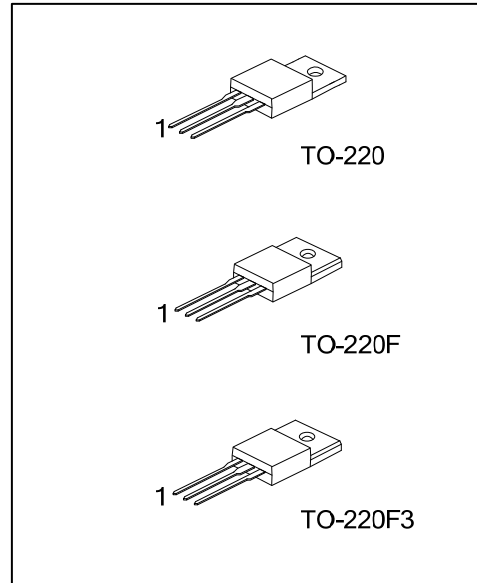
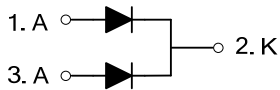
#### DESCRIPTION

The UTC **TGBR20S45C** is a dual trench mos schottky barrier rectifier, it uses UTC's advanced technology to provide customers with high current capability, low forward voltage and high switching speed, etc.

#### FEATURES

- \* Super low forward voltage
- \* High switching speed
- \* High current capability

#### SYMBOL



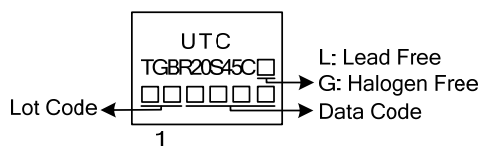
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
TGBR20S45CL-TA3-T	TGBR20S45CG-TA3-T	TO-220	A	K	A	Tube
TGBR20S45CL-TF3-T	TGBR20S45CG-TF3-T	TO-220F	A	K	A	Tube
TGBR20S45CL-TF3T-T	TGBR20S45CG-TF3T-T	TO-220F3	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

TGBR20S45CL-TA3-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TA3: TO-220, TF3: TO-220F, TF3T: TO-220F3
	(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
Peak Repetitive Reverse Voltage		$V_{RRM}$	45	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave) – 50% duty cycle	Per Leg	$I_o$	10	A
	Total		20	A
Peak Forward Surge Current - 1/2 60Hz		$I_{FSM}$	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 (PER LEG)

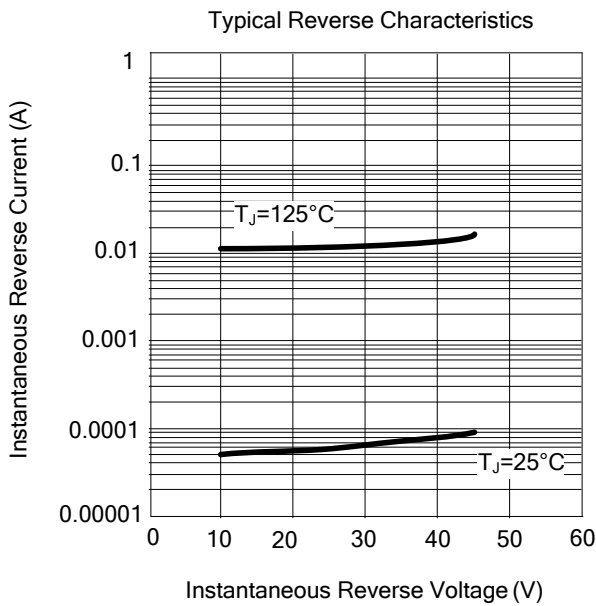
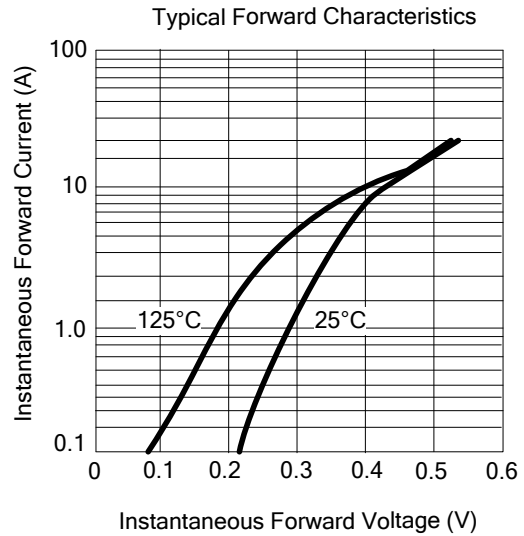
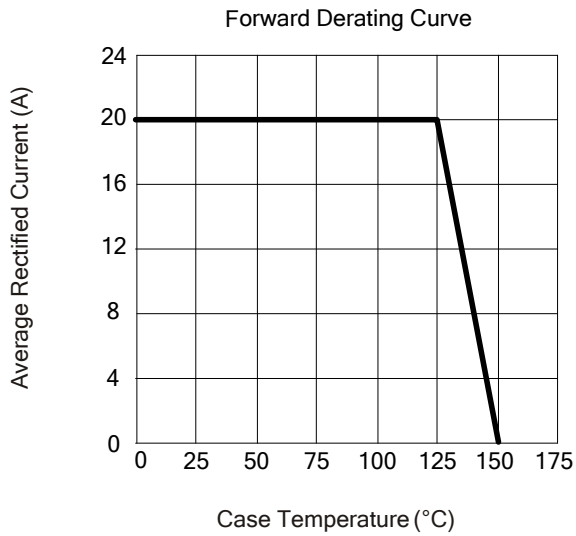
PARAMETER		SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-220	$\theta_{JC}$	2	$^{\circ}\text{C/W}$
	TO-220F/TO-220F3		4	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	$V_{FM}$	$I_F=10\text{A}, T_J=25^{\circ}\text{C}$			0.52	V
		$I_F=10\text{A}, T_J=125^{\circ}\text{C}$			0.47	V
Peak Reverse Current at Rated DC Blocking Voltage	$I_{RM}$	$V_R=45\text{V}, T_J=25^{\circ}\text{C}$			500	$\mu\text{A}$
		$V_R=45\text{V}, T_J=125^{\circ}\text{C}$			100	$\text{mA}$

Note: Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$ .

■ TYPICAL CHARACTERISTICS



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