

MGBR20V45C

DUAL MOS GATED BARRIER RECTIFIERS

DESCRIPTION

The UTC MGBR20V45C is a dual mos gated barrier rectifiers, it uses UTC's advanced technology to provide customers with high current capability, low forward voltage and high switching speed, etc.

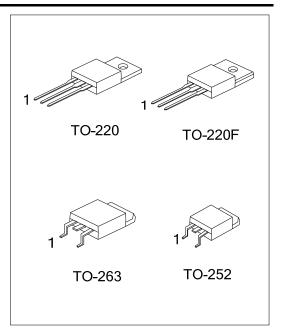
FEATURES

* Very low forward voltage

- * High switching speed
- * High current capability

SYMBOL

ORDERING

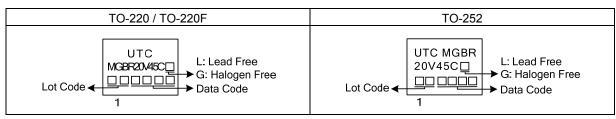


| Ordering Number | | Deekage | Pin Assignment | | | Deaking | |
|--|-------------------|---------|----------------|---|---|-----------|--|
| Lead Free | Halogen Free | Package | 1 | 2 | 3 | Packing | |
| MGBR20V45CL-TA3-T | MGBR20V45CG-TA3-T | TO-220 | А | К | Α | Tube | |
| MGBR20V45CL-TF3-T | MGBR20V45CG-TF3-T | TO-220F | А | К | Α | Tube | |
| MGBR20V45CL-TN3-R | MGBR20V45CG-TN3-R | TO-252 | А | К | Α | Tape Reel | |
| MGBR20V45CL-TQ2-T | MGBR20V45CG-TQ2-T | TO-263 | А | К | Α | Tube | |
| MGBR20V45CL-TQ2-R | MGBR20V45CG-TQ2-R | TO-263 | А | К | А | Tape Reel | |
| Note: Pin Assignment: A: Anode K: Common Cathode | | | | | | | |

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

| MGBR20V45CL-TA3-T (1)Packing Type (2)Package Type (3)Green Package | (1) T: Tube, R: Tape Reel (2) TA3: TO-220, TF3: TO-220F, TN3: TO-252 TQ2: TO-263 (3) L: Lead Free, G: Halogen Free and Lead Free |
|---|---|
| (3)Green Package | (3) L: Lead Free, G: Halogen Free and Lead Free |
| | (1)Packing Type (2)Package Type |

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%.

| T OF Capacitance Ioau, derate current i | Jy 2070. | | | |
|--|----------|------------------|------------|------|
| 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 | Per Leg | | 10 | А |
| (Rated VR-20KHz Square Wave) – 50% duty cycle | Total | | 20 | А |
| Peak Forward Surge Current - 1/2 60 | Hz | I _{FSM} | 150 | А |
| Operating Junction Temperature | | TJ | -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 (PER LEG)

| PARAMETER | | SYMBOL | RATINGS | UNIT |
|----------------------------|---------|-----------------|---------|------|
| Typical Thermal Resistance | TO-220 | | 2 | °C/W |
| | TO-220F | θ _{JC} | 4 | °C/W |
| | TO-252 | | 6 | °C/W |
| | TO-263 | | 3 | °C/W |

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

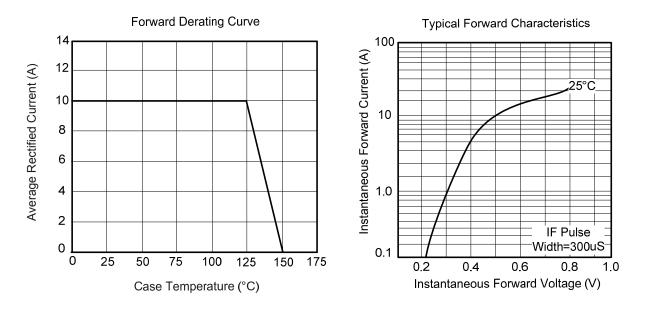
| PARAMETER | SYMBOL | TEST CONDITIONS | | TYP | MAX | UNIT |
|-------------------------------|--------------------|--|----|-----|------|------|
| Reverse Breakdown Voltage | V _{(BR)R} | I _R =0.45mA | 45 | | | V |
| Instantaneous Forward Voltage | | I _F =10A, TJ=25°C | | | 0.59 | V |
| | | I _F =10A, T _J =125°C | | | 0.52 | V |
| Leakage Current | RM | V _R =45V, T _J =25°C | | | 500 | μA |
| | | V _R =45V, T _J =125°C | | | 100 | mA |

Note: Pulse Test: Pulse width \leq 300µs, Duty cycle \leq 2%.



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TYPICAL CHARACTERISTICS



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