



**CHENMKO ENTERPRISE CO.,LTD**

*Lead free devices*

**ULTRA FAST RECTIFIER**

VOLTAGE RANGE 50 - 600 Volts CURRENT 10 Amperes

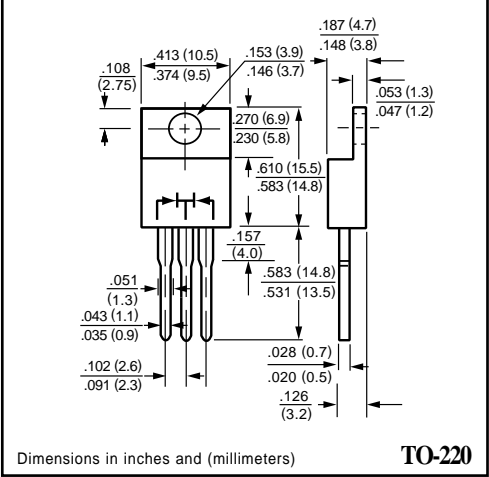
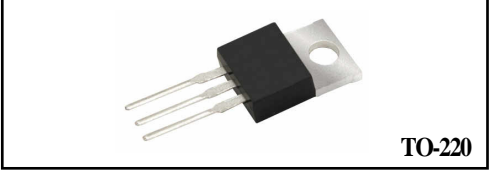
**U10C05PT  
THRU  
U10C60PT**

**FEATURES**

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* Dual rectifier construction, positive centertap
- \* Glass passivated chip junctions
- \* Low power loss
- \* Low forward voltage, high current capability
- \* High surge current capability
- \* Ultra fast recovery times for high efficiency
- \* High temperature soldering guaranteed : 260°C/10 seconds at terminals

**MECHANICAL DATA**

**Case:** JEDEC TO-220 molded plastic  
**Terminals:** Lead solderable per MIL-STD-750, Method 2026  
**Polarity:** As marked  
**Weight:** 2.24 grams ( Approximately )



**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

**MAXIMUM RATINGS** ( At TA = 25°C unless otherwise noted )

| RATINGS   | SYMBOL   | U10C05PT    | U10C10PT | U10C15PT | U10C20PT | U10C30PT | U10C40PT | U10C50PT | U10C60PT | UNITS  |
|---|----------|-------------|----------|----------|----------|----------|----------|----------|----------|--------|
| Maximum Recurrent Peak Reverse Voltage  | VRRM     | 50          | 100      | 150      | 200      | 300      | 400      | 500      | 600      | Volts  |
| Maximum RMS Voltage   | VRMS     | 35          | 70       | 105      | 140      | 210      | 280      | 350      | 420      | Volts  |
| Maximum DC Blocking Voltage   | VDC      | 50          | 100      | 150      | 200      | 300      | 400      | 500      | 600      | Volts  |
| Maximum Average Forward Rectified Current   | Io       | 10.0        |          |          |          |          |          |          |          | Amps   |
| Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method) | IFSM     | 125         |          |          |          |          |          |          |          | Amps   |
| Typical Junction capacitance per leg ( NOTE 1 )   | CJ       | 120         |          |          |          | 70       |          |          |          | pF     |
| Typical thermal resistance ( NOTE 2 )   | R θJC    | 3.0         |          |          |          |          |          |          |          | °C / W |
| Operating and Storage Temperature Range   | TJ, TSTG | -65 to +150 |          |          |          |          |          |          |          | °C     |

**ELECTRICAL CHARACTERISTICS** ( At TA = 25°C unless otherwise noted )

| CHARACTERISTICS   | SYMBOL | U10C05PT | U10C10PT | U10C15PT | U10C20PT | U10C30PT | U10C40PT | U10C50PT | U10C60PT | UNITS |
|---|--------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| Maximum Instantaneous Forward Voltage at 5.0 A DC               | VF     | 0.975    |          |          | 1.30     |          | 1.50     |          |          | Volts |
| Maximum DC reverse current at rated DC blocking voltage per leg | IR     | 10.0     |          |          |          |          |          |          |          | uAmps |
|   |        | 250      |          |          |          |          |          |          |          |       |
| Maximum reverse recovery time ( NOTE 3 ) per leg                | trr    | 35       |          |          |          | 50       |          |          |          | nS    |

- NOTES : 1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts  
 2. Thermal resistance from junction to case per leg mounted on heatsink  
 3. Reverse recovery test conditions : IF = 0.5 A, IR = -1.0 A, IRR = -0.25 A.  
 4. Suffix " C " = Common Cathod, Suffix " A " = Common Anode, Suffix " D " = Double.

## RATING CHARACTERISTIC CURVES ( U10C05PT THRU U10C60PT )

FIG. 1 - TYPICAL FORWARD CURRENT DERATING CURVE

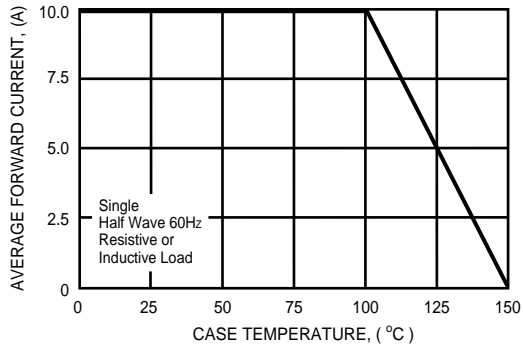


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

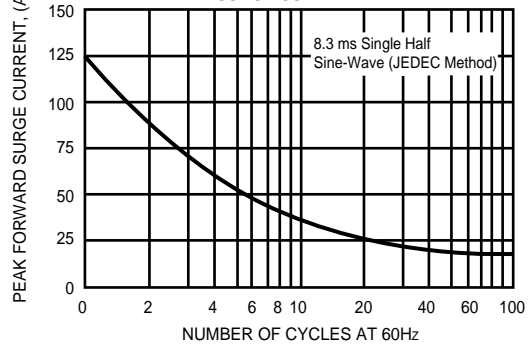


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

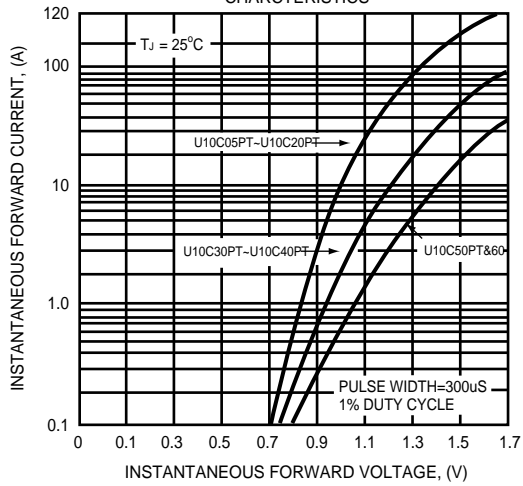


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

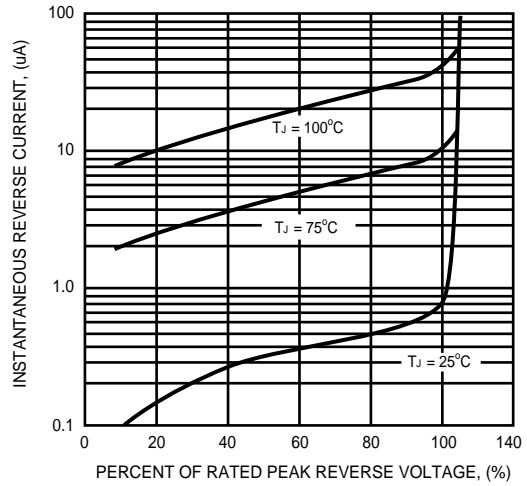


FIG. 5 - TYPICAL JUNCTION CAPACITANCE

