

Pb Free Plating Product

UFP60C20C/UFP60C40C/UFP60C60C



60 Ampere Heatsink Dual Common Cathode Ultra Fast Recovery Rectifiers

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| <p>Features</p> <ul style="list-style-type: none"> ※ ThinkiSemi latest&matured process FRD/FRED ※ Fast switching for high efficiency ※ Low forward voltage drop ※ High current capability ※ Low reverse leakage current ※ High surge current capability <p>Application</p> <ul style="list-style-type: none"> ※ Automotive Inverters and Solar Inverters ※ Car Audio Amplifiers and Sound Device Systems ※ Plating Power Supply, Motor Control, UPS and SMPS etc. <p>Mechanical Data</p> <ul style="list-style-type: none"> ※ Case: Open Metal Package TO-3PN/TO-3PB ※ Epoxy: UL 94V-0 rate flame retardant ※ Terminals: Solderable per MIL-STD-202 method 208 ※ Polarity: As marked on diode body ※ Mounting position: Any ※ Weight: 6.0 gram approximately | <p>TO-3PN/TO-3PB Unit:inch(mm)</p> <p>② Bottom Side Metal Heat Sink(Case)</p> <p>① ② ③ Case</p> <p>Positive Common Cathode Suffix "C"</p> <p>Negative Common Anode Suffix "A"</p> <p>Doubler Tandem Polarity Suffix "D"</p> <p>Series Tandem Polarity Suffix "S"</p> |
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MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| PARAMETER | SYMBOL | UFP60C10C | UFP60C30C | UFP60C50C | UNIT |
|--|---------|-------------|-----------|-----------|----------|
| | | UFP60C20C | UFP60C40C | UFP60C60C | |
| Maximum Recurrent Peak Reverse Voltage | VRRM | 200 | 400 | 600 | V |
| Maximum RMS Voltage | VRMS | 140 | 280 | 420 | V |
| Maximum DC Blocking Voltage | VDC | 200 | 400 | 600 | V |
| Maximum Average Forward Rectified Current Tc=100°C (Total Device 2x30A=60A) | IF(AV) | 60 | | | A |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg) | IFSM | 600 | | | A |
| Maximum Instantaneous Forward Voltage @30A (Per Diode/Per Leg) | VF | 0.85-0.95 | 1.00-1.25 | 1.25-1.50 | V |
| Maximum DC Reverse Current @TJ=25°C At Rated DC Blocking Voltage @TJ=125°C | IR | 1.0 5.0 | | | μA μA |
| Maximum Reverse Recovery Time (Note1) | Trr | 25-50 | | | nS |
| Typical Junction Capacitance (Note 2) | CJ | 300 | | | pF |
| Typical Thermal Resistance (Note 3) | RθJC | 0.8 | | | °C/W |
| Operating Junction and Storage Temperature Range | TJ,TSTG | -55 to +175 | | | °C |

Note:(1)Reverse recovery test conditions IF = 0.5A, IR = 1.0A, Irr = 0.25A.

Note:(2)Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

Note:(3)Thermal Resistance junction to case.

FIG.1 - FORWARD CURRENT DERATING CURVE

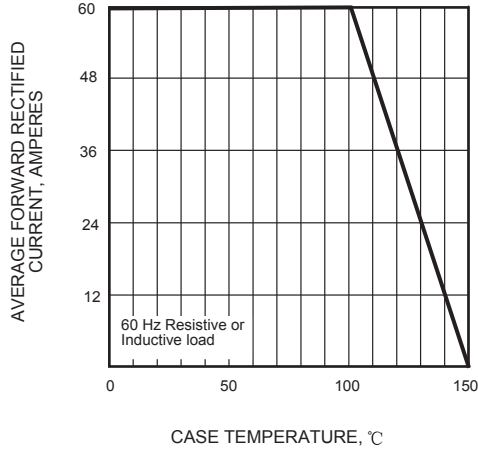


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

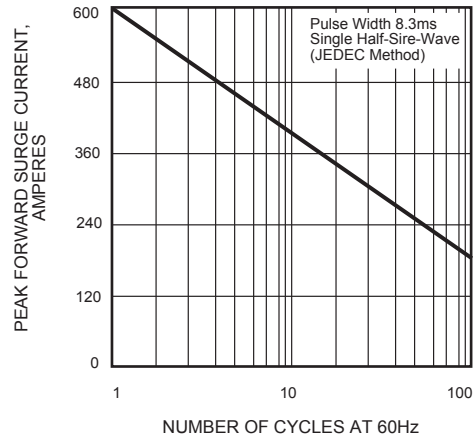


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

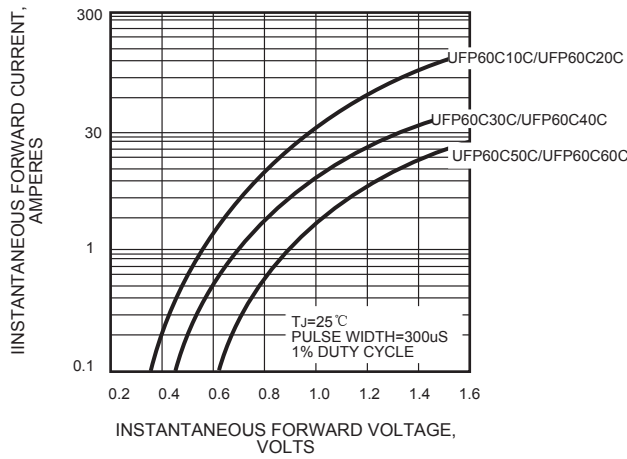


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

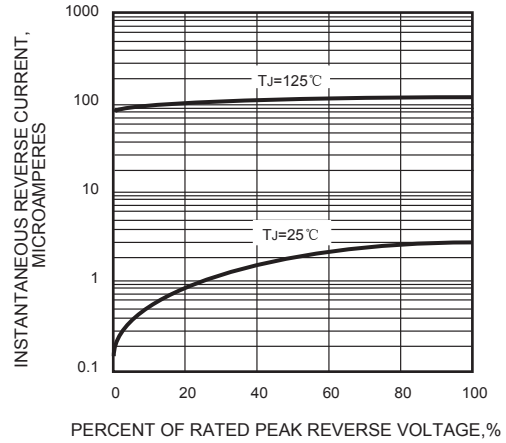
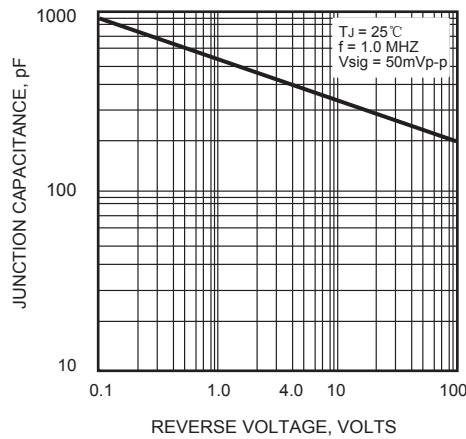
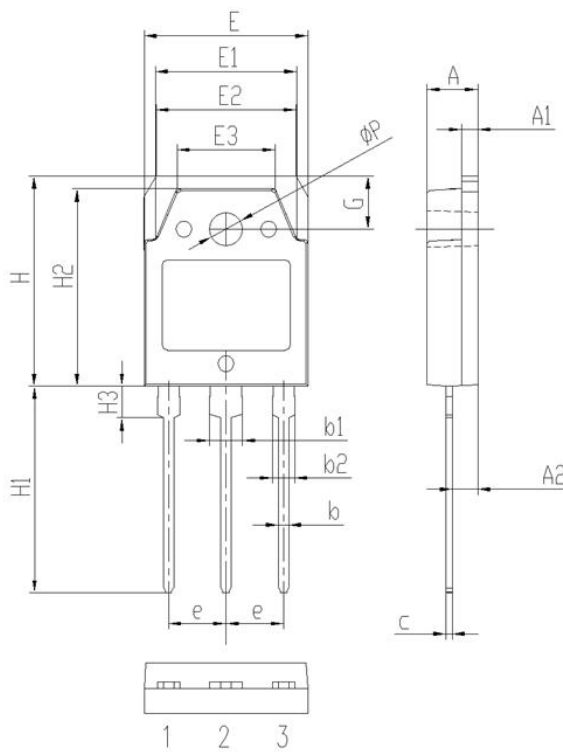


FIG.5 - TYPICAL JUNCTION CAPACITANCE



Package Information

TO-3PN/TO-3PB Package Outline



| Symbol | Dimensions(millimeters) | |
|--------|-------------------------|------|
| | Min. | Max. |
| A | 4.60 | 5.00 |
| A1 | 1.50 | 2.00 |
| A2 | 2.20 | 2.60 |
| b | 0.80 | 1.20 |
| b1 | 2.90 | 3.30 |
| b2 | 1.90 | 2.30 |
| c | 0.40 | 0.80 |
| e | 5.25 | 5.65 |
| E | 15.3 | 15.7 |
| E1 | 13.2 | 13.6 |
| E2 | 13.1 | 13.5 |
| E3 | 9.10 | 9.50 |
| H | 19.7 | 20.1 |
| H1 | 19.1 | 20.1 |
| H2 | 18.3 | 18.7 |
| H3 | 2.80 | 3.20 |
| G | 4.80 | 5.20 |
| ΦP | 3.00 | 3.40 |