Pb Free Plating Product

# HER3002PA thru HER3012PA

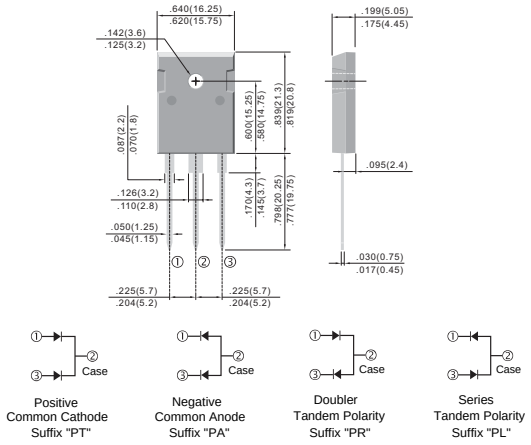
## 30.0 Ampere Heatsink Dual Common Anode High Efficiency Rectifiers

**Features**
※ ThinkiSemi latest&matured process FRD/FRED
※ Low forward voltage drop
※ High current capability
※ Low reverse leakage current
※ High surge current capability

**Application**
※ Automotive Inverters and Solar Inverters
※ Car Audio Amplifiers and Sound Device Systems
※ Plating Power Supply,Motor Control,UPS and SMPS etc.

**Mechanical Data**
※ Case: Heatsink TO-247AD/TO-3P Package Outline
※ 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

TO-247AD/TO-3P Unit:inch(mm)




**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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

| PARAMETER | SYMBOL | HER3002PA | HER3003PA HER3004PA | HER3006PA | HER3008PA | HER3010PA | HER3012PA | UNIT |
|---|---|---|---|---|---|---|---|---|
| Maximum Recurrent Peak Reverse Voltage | VRRM | 200 | 400 | 600 | 800 | 1000 | 1200 | V |
| Maximum RMS Voltage | VRMS | 140 | 280 | 420 | 560 | 700 | 840 | V |
| Maximum DC Blocking Voltage | VDC | 200 | 400 | 600 | 800 | 1000 | 1200 | V |
| Maximum Average Forward Rectified Current TC=125℃ (Total Device 2x15.0A=30.0A) | IF(AV) | 30.0 | | | | | | A |
| Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg) | IFSM | 300 | | | | | | A |
| Maximum Instantaneous Forward Voltage @15.0A(Per Diode/Per Leg) | VF (Typical) | 0.85-1.00 | 1.00-1.30 | 1.30-1.70 | 1.30-1.70 | | | V |
| Maximum DC Reverse Current @TJ=25℃ At Rated DC Blocking Voltage @TJ=125℃ | IR | 1.0 100 | | | | | | μA μA |
| Maximum Reverse Recovery Time (Note1) | Trr | 35-50 | | | 50-75 | | | nS |
| Typical Junction Capacitance (Note 2) | CJ | 150 | | | | | | pF |
| Typical Thermal Resistance (Note 3) | RθJC | 0.75 | | | | | | ℃/W |
| Operating Junction and Storage Temperature Range | TJ,TSTG | -55 to +175 | | | | | | ℃ |

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.



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FIG.1 - FORWARD CURRENT DERATING CURVE

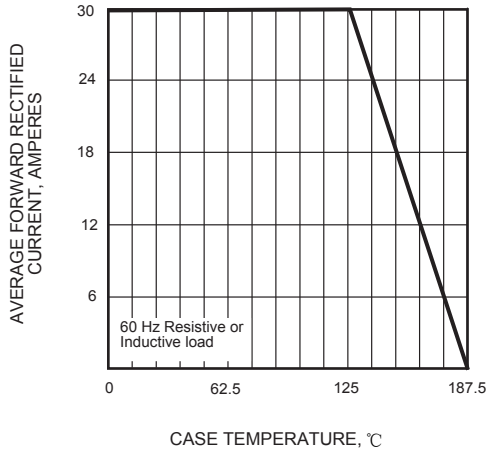



FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

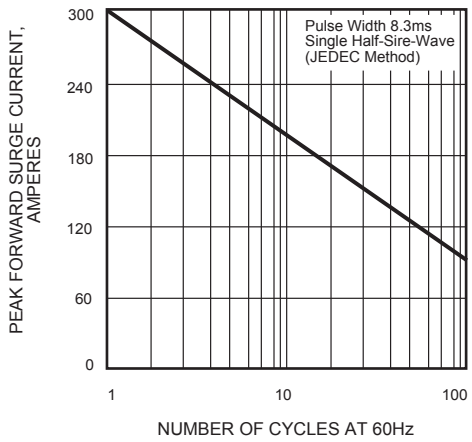



FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

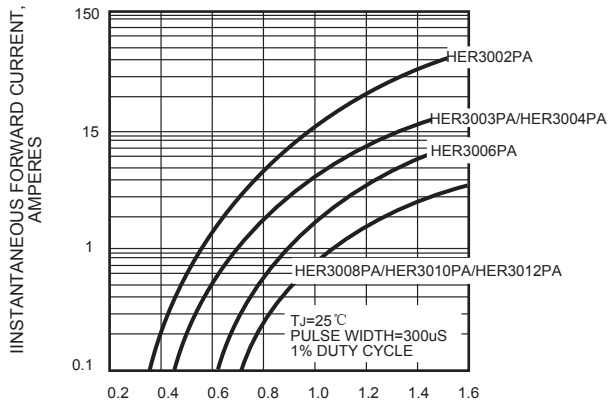



FIG.4 - TYPICAL REVERSE CHARACTERISTICS

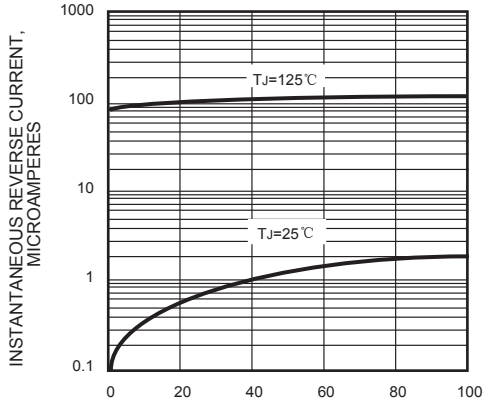
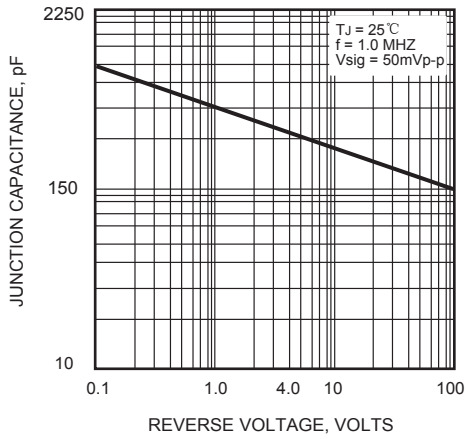



FIG.5 - TYPICAL JUNCTION CAPACITANCE



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