



Pb Free Plating Product

HER4002PL thru HER4012PL

40.0 Ampere Heatsink Series Connection High Efficiency Rectifiers

<p><b>Features</b></p> <ul style="list-style-type: none"> <li>ThinkiSemi latest&amp;matured process FRD/FRED</li> <li>Low forward voltage drop</li> <li>High current capability</li> <li>Low reverse leakage current</li> <li>High surge current capability</li> </ul> <p><b>Application</b></p> <ul style="list-style-type: none"> <li>Automotive Inverters and Solar Inverters</li> <li>Car Audio Amplifiers and Sound Device Systems</li> <li>Plating Power Supply, Motor Control, UPS and SMPS etc.</li> </ul> <p><b>Mechanical Data</b></p> <ul style="list-style-type: none"> <li>Case: Heatsink TO-247AD/TO-3P Package Outline</li> <li>Epoxy: UL 94V-0 rate flame retardant</li> <li>Terminals: Solderable per MIL-STD-202 method 208</li> <li>Polarity: As marked on diode body</li> <li>Mounting position: Any</li> <li>Weight: 6.0 gram approximately</li> </ul>	<p>TO-247AD/TO-3P <span style="float: right;">Unit:inch(mm)</span></p> <p>① → ② Case ③ → ④ Case</p> <p>① → ② Case ③ → ④ Case</p> <p>① → ② Case ③ → ④ Case</p> <p>① → ② Case ③ → ④ Case</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	HER4002PL	HER4003PL HER4004PL	HER4006PL	HER4008PL	HER4010PL	HER4012PL	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°C (Total Device 2x20.0A=40.0A)	IF(AV)	40.0						A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)(Per Diode/Per Leg)	IFSM	400						A
Maximum Instantaneous Forward Voltage @20.0A(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°C At Rated DC Blocking Voltage @TJ=125°C	IR	1.0 100						µA µA
Maximum Reverse Recovery Time (Note1)	Trr	35-50			50-75			nS
Typical Junction Capacitance (Note 2)	CJ	200						pF
Typical Thermal Resistance (Note 3)	RθJC	0.75						°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

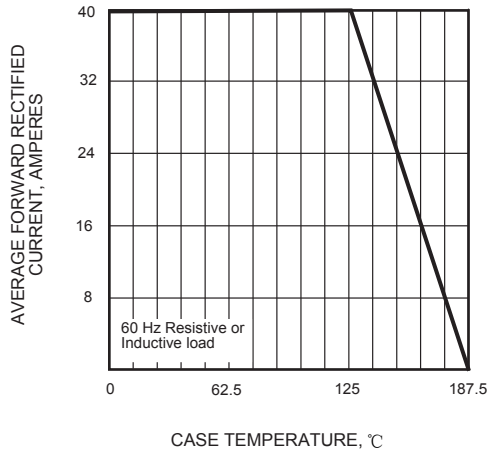


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

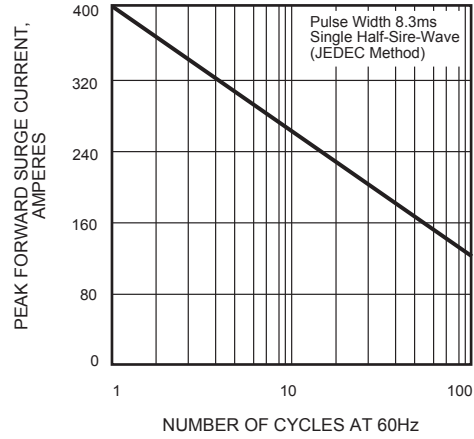


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

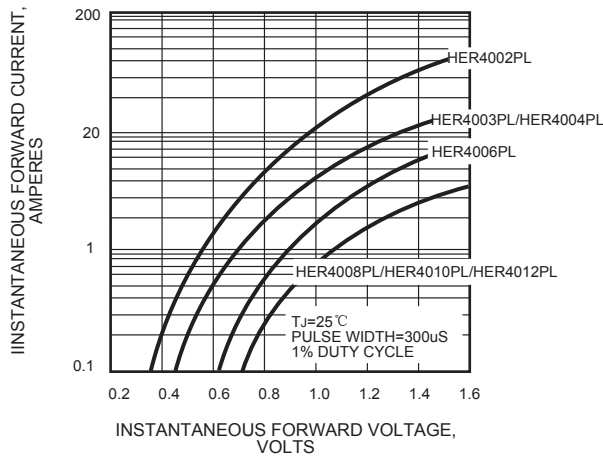


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

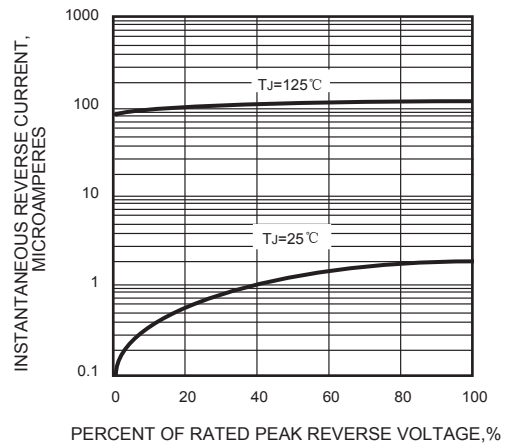


FIG.5 - TYPICAL JUNCTION CAPACITANCE

