Pb Free Plating Product

HERF1001GS thru HERF1008GS

10Ampere Insulated Dual Series Connection High Efficiency Rectifiers

Features

- ✶ Fast switching for high efficiency
- ✶ Low forward voltage drop
- ✶ High current capability
- ✶ Low reverse leakage current
- ✶ High surge current capability

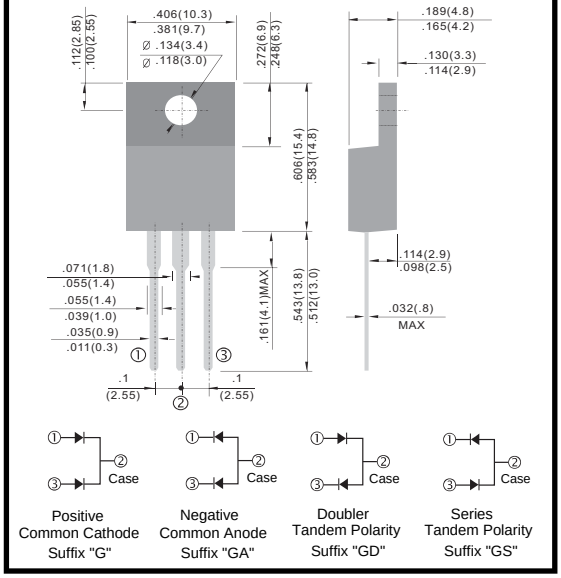
Application

- ✶ Automotive Inverters and Solar Inverters
- ✶ Plating Power Supply,SMPS and UPS
- ✶ Car Audio Amplifiers and Sound Device Systems

Mechanical Data

- ✶ Case: TO-220F fully plastic isolated encapsulation
- ✶ 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: 1.9 gram approximately

ITO-220AB/TO-220F-3L Unit : inch (mm)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)										
PARAMETER	SYMBOL	HERF 1001GS	HERF 1002GS	HERF 1003GS	HERF 1004GS	HERF 1005GS	HERF 1006GS	HERF 1007GS	HERF 1008GS	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	300	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	210	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	300	400	600	800	1000	V
Maximum average forward rectified current	$I_{F(AV)}$	10								A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	125								A
Maximum instantaneous forward voltage (Note 1) @ 5 A	V_F	1.0				1.3	1.7			V
Maximum reverse current @ rated V_R T_J=25°C T_J=125°C	I_R	10 400								μA
Maximum reverse recovery time (Note 2)	t_{rr}	50					80			ns
Typical junction capacitance (Note 3)	C_J	60					40			pF
Typical thermal resistance	$R_{\theta JC}$	3.0								°C/W
Operating junction temperature range	T_J	- 55 to +150								°C
Storage temperature range	T_{STG}	- 55 to +150								°C

Note 1: Pulse test with PW=300μs, 1% duty cycle

Note 2: Test conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and applied reverse voltage of 4.0V DC.

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RATINGS AND CHARACTERISTICS CURVES

(T_A=25°C unless otherwise noted)

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

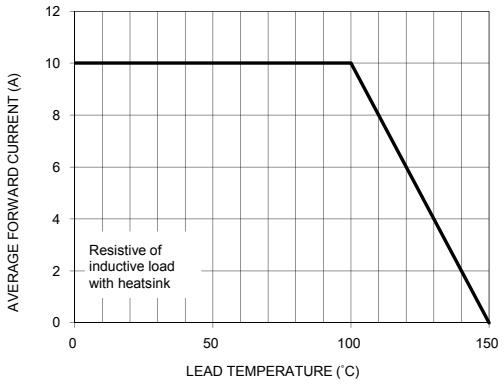


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

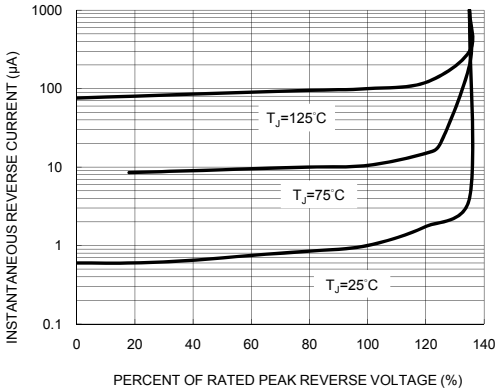


FIG. 3 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

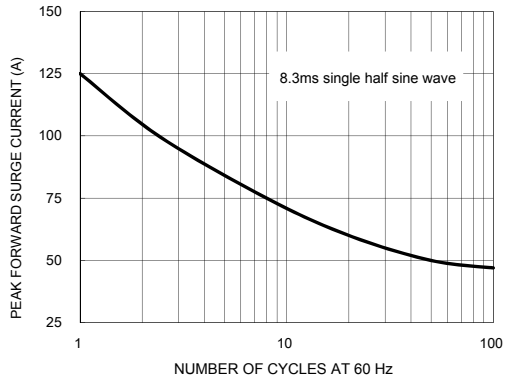


FIG. 4 TYPICAL FORWARD CHARACTERISTICS

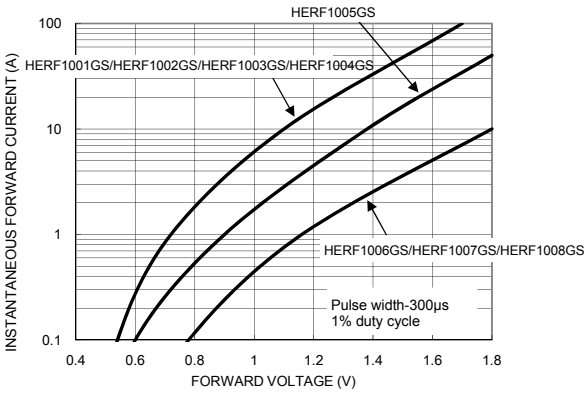


FIG. 5 TYPICAL JUNCTION CAPACITANCE

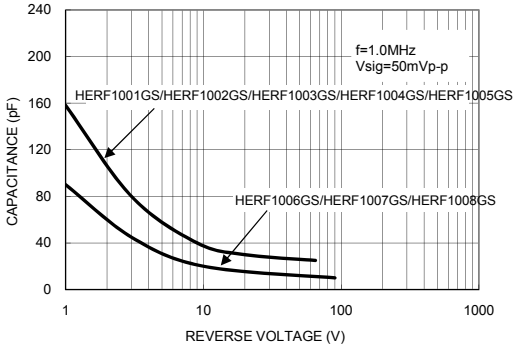
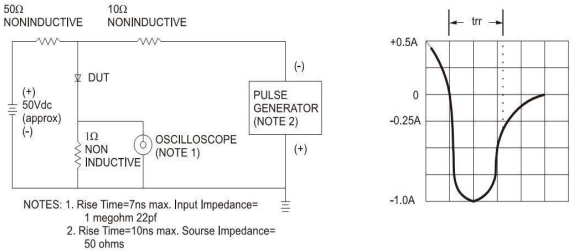


FIG.6 REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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