SYNSEMI inc

SYNSEMI SEMICONDUCTOR

DF005 thru DF10

Miniature Glass Passivated Single-Phase Bridge Rectifiers
Voltage Range 50 to 1000 Volts Forward Current 1.0 Ampere

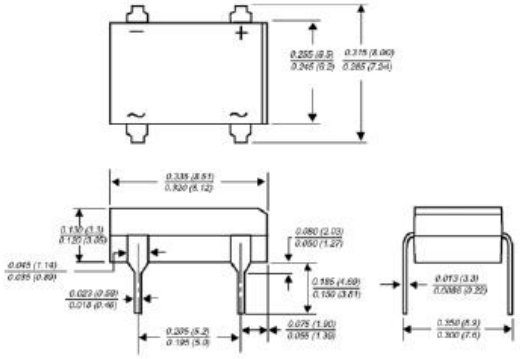
Features

- Plastic package used has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction
- High surge overload rating of 50 Amperes peak
- Ideal for printed circuit boards
- High temperature soldering guaranteed: 260ºC/10 seconds, at 5 lbs. (2.3kg) tension

DF

Mechanical Data

- Case: Molded plastic body over passivated junctions
- Terminals: Plated leads solderable per MIL-STD-750, Method 2026
- Polarity: Polarity symbols as marked on body
- Mounting Position: Any
- Weight: 0.04 ounce, 1.0 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

(Ratings at 25ºC ambient temperature unless otherwise specified.)

Parameter	Symbols	DF005	DF01	DF02	DF04	DF06	DF08	DF10	Units
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum average forward output rectified current at T_A=40ºC	$I_{F(AV)}$	1.0							Amp
Peak forward surge current single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	50.0							Amps
Rating for fusing (t < 8.3ms)	I^2t	10							A²sec
Max. instantaneous forward voltage drop per leg at 1.0A	V_F	1.1							Volts
Maximum DC reverse current at rated DC blocking voltage per leg T_A=25ºC T_A=125ºC	I_R	5.0 500							uA
Typical junction capacitance per leg at 4.0V, 1MHz	C_J	25							pF
Typical thermal resistance per leg (Note 1)	$R_{\theta JA}$ $R_{\theta JL}$	40 15							ºC/W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150							ºC

Notes: 1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13 x 13mm) copper pads

DF005 thru DF10

RATINGS AND CHARACTERISTIC CURVES

(T_A = 25°C unless otherwise noted)

FIG. 1 - DERATING CURVE OUTPUT RECTIFIED CURRENT

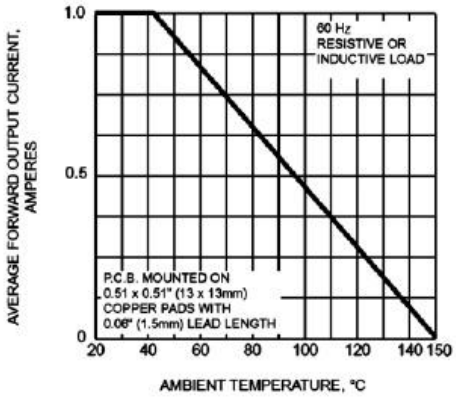


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

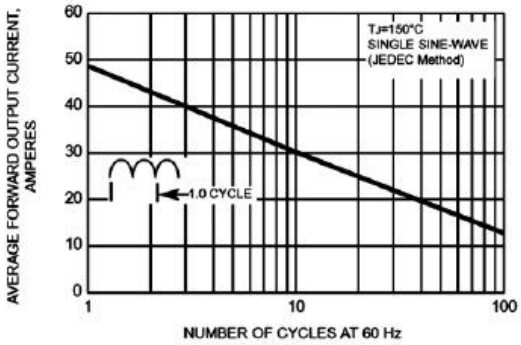


FIG. 3 - TYPICAL FORWARD CHARACTERISTICS PER LEG

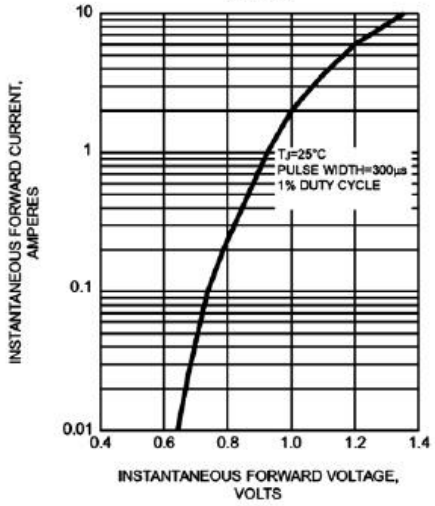


FIG. 4 - TYPICAL REVERSE LEAKAGE CHARACTERISTICS PER LEG

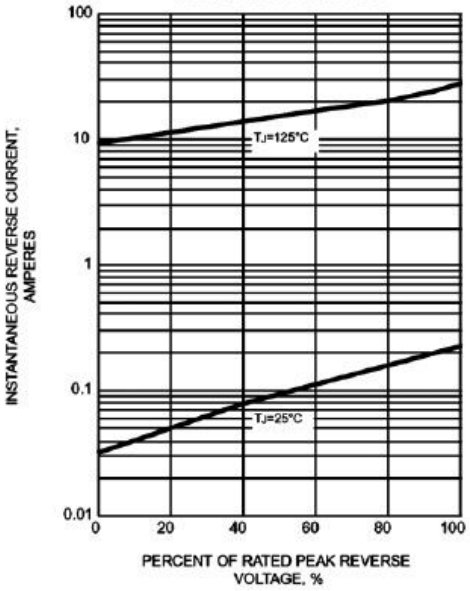


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

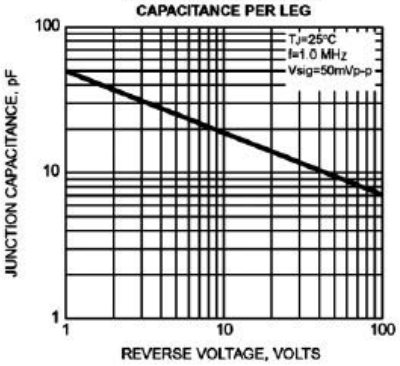
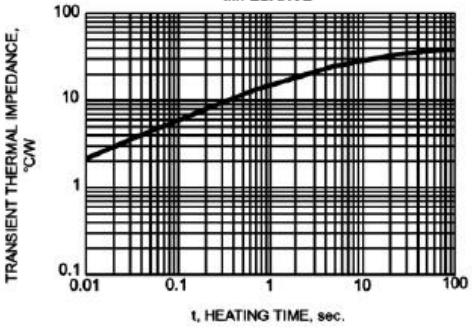



FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE