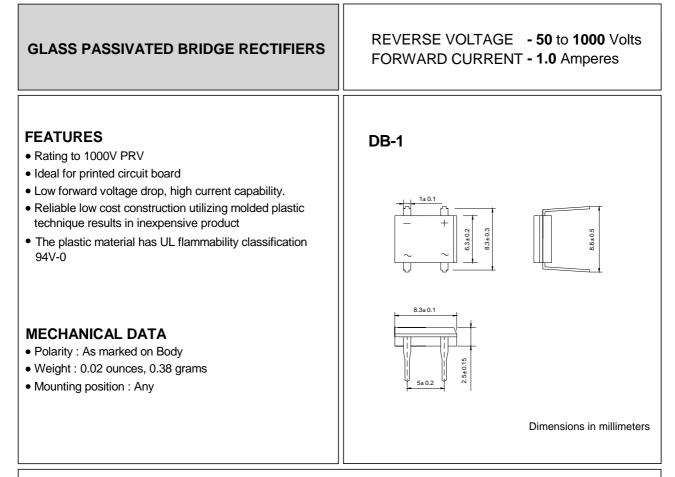
## **Diode Semiconductor Korea**

DF005M---DF10M



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at  $25^{\circ}$ C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	DF005M	DF01M	DF02M	DF04M	DF06M	DF08M	DF10M	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @TA=40°C	I(AV)	1.0						A	
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	IFSM	50						A	
Maximum forward Voltage at 1.0A DC	VF	1.1						V	
Maximum DC Reverse Current at Rated DC Blocking Voltage@TJ =25°C @TJ =125°C	IR	10 500						uA	
I <sup>2</sup> t Rating for fusing (t < 8.3ms)	$l^2 t$	10.4						A <sup>2</sup> S	
Typical Junction Capacitance per element (Note 1)	Сл	25						pF	
Typical Thermal Resistance (Note 2)	Reja	40						°C/W	
Operating Temperature Range	TJ	-55 to +150						°C	
Storage Temperature Range	Tstg	-55 to +150						°C	

NOTES : 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

2.Thermal resistance from junction to ambient mounted on P.C.B with 0.5x0.5"(13x13mm) copper pads.

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## FIG.1 - FORWARD CURRENT DERATING CURVE FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT PEAK FORWARD SURGE CURRENT, AMPERES 1.0 AVERAGE FORWARD CURRENT AMPERES 50 0.8 40 0.6 30 0.4 20 SINGLE PHASE HALF WAVE 60Hz 0.2 10 RESISTIVE OR INDUCTIVE LOAD Single Half-Sine-Wave (JEDEC METHOD) 0.1 0 20 40 60 80 100 120 140 1 2 5 10 20 50 100 AMBIENT TEMPERATURE , °C NUMBER OF CYCLES AT 60Hz FIG.3 - TYPICAL JUNCTION CAPACITANCE FIG.4 - TYPICAL FORWARD CHARACTERISTICS 100 10 INSTANTANEOUS FORWARD CURRENT, (A) CAPACITANCE , (pF) 1.0 10 TJ = 25℃ 0.1 PULSE WIDTH 300us 2% DUTY CYCLE $TJ = 25^{\circ}C, f = 1MHz$ 1.0 .01 0.1 100 1.0 4.0 10.0 0.4 1.2 1.4 1.6 1.8 0 0.2 0.6 0.8 1.0 **REVERSE VOLTAGE**, VOLTS INSTANTANEOUS FORWARD VOLTAGE, VOLTS FIG.5 - TYPICAL REVERSE CHARACTERISTICS 100 INSTANTANEOUS REVERSE CURRENT, (uA) TJ = 125°C 10 1.0 TJ = 25°C 0.1 0.01 0 20 40 60 80 100 120 140 PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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