DC COMPONENTS CO., LTD.

RECTIFIER SPECIALISTS

DB151S THRU DB157S

TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SURFACE MOUNT BRIDGE RECTIFIER

*VOLTAGE RANGE - 50 to 1000 Volts*   *CURRENT - 1.5 Ampere*

FEATURES
* Surge overload rating - 50 Amperes peak
* Ideal for printed circuit board
* Reliable low cost construction
* Glass passivated junction

MECHANICAL DATA
* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Terminals: MIL-STD-202E, Method 208 guaranteed
* Polarity: Symbols molded or marked on body
* Mounting position: Any
* Weight: 0.38 gram

DB-1S

.310 (7.9)
.290 (7.4)

.255 (6.5)
.245 (6.2)

.009 (.23)

.008 (.203)
.0004 (.0102)

.410 (10.4)
.360 (9.4)

.060 (1.524)
.040 (1.016)

.042 (1.1)
.038 (1.0)

.335 (8.51)
.320 (8.13)

.098 (2.5)
.086 (2.2)

.205 (5.2)
.195 (5.0)

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.
For capacitive load, derate current by 20%.
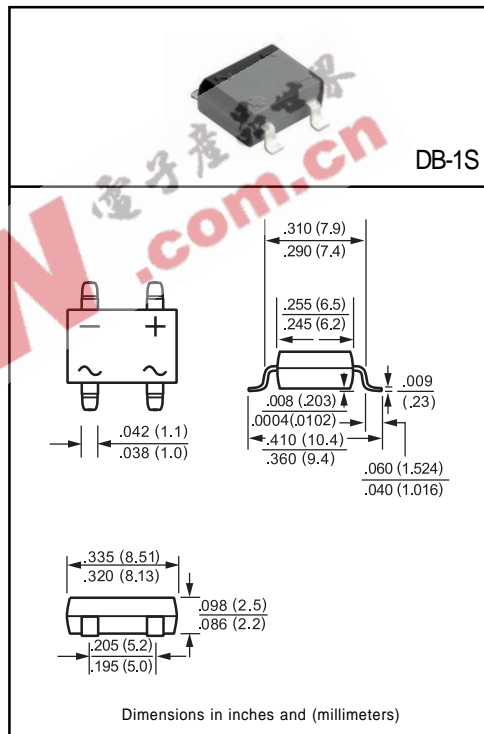
		SYMBOL	DB151S	DB152S	DB153S	DB154S	DB155S	DB156S	DB157S	UNITS
Maximum Recurrent Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage		V_{RMS}	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Output Current at $T_A = 40°C$		I_O	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	50							Amps
Maximum Forward Voltage Drop per Bridge Element at 1.0A DC		V_F	1.1							Volts
Maximum DC Reverse Current at rated DC Blocking Voltage per element	@ $T_A = 25°C$	I_R	10							uAmps
	@ $T_A = 125°C$		500							
I^2t Rating for Fusing (t<8.3ms)		I^2t	10							A^{2}Sec
Typical Junction Capacitance (Note1)		C_J	25							pF
Typical Thermal Resistance (Note 2)		$R_{\theta JA}$	40							°C/W
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to + 150							°C

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts
2. Thermal Resistance from Junction to Ambient and from junction to lead mounted on P.C.B. with 0.5 x 0.5" (13x13mm) copper pads.

RATING AND CHARACTERISTIC CURVES (DB151S THRU DB157S)
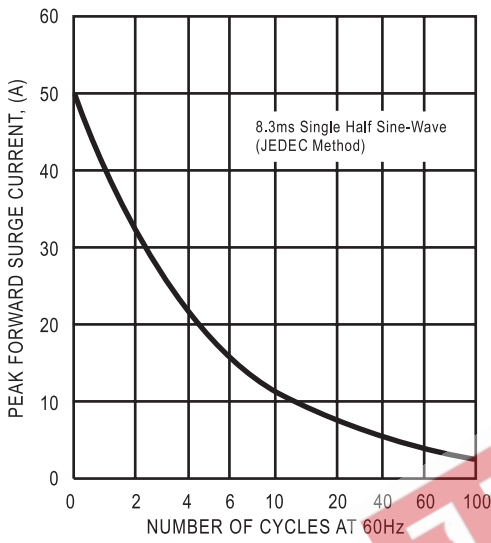
FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

8.3ms Single Half Sine-Wave
(JEDEC Method)

PEAK FORWARD SURGE CURRENT, (A)

NUMBER OF CYCLES AT 60Hz

FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

Single Phase Half Wave
60Hz Inductive or
Resistive Load

AVERAGE FORWARD CURRENT, (A)

AMBIENT TEMPERATURE, (℃)
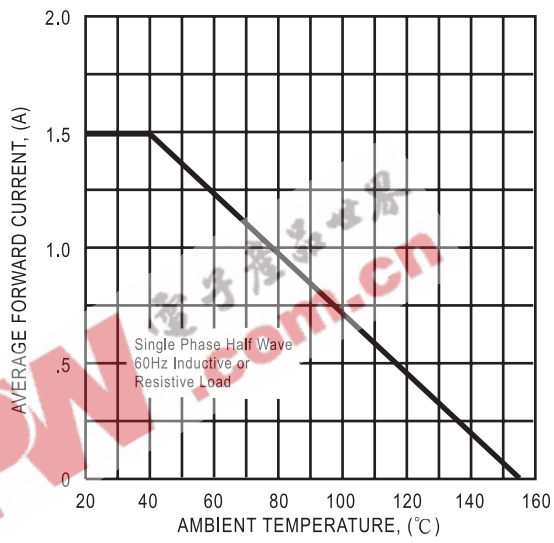
FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

Pulse Width = 300us
1% Duty Cycle

T_J = 25℃

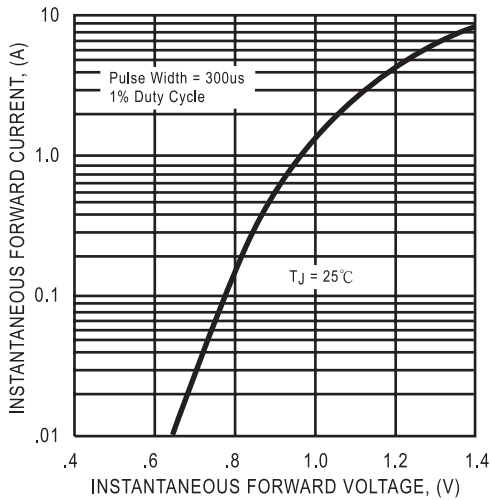INSTANTANEOUS FORWARD CURRENT, (A)

INSTANTANEOUS FORWARD VOLTAGE, (V)

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

T_J = 25℃

INSTANTANEOUS REVERSE CURRENT, (uA)

PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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