



RS501 THRU RS507

SINGLE-PHASE SILICON BRIDGE

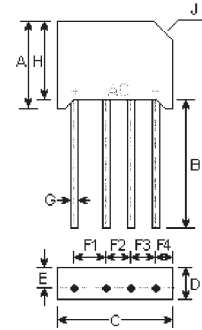
Reverse Voltage - 65 to 1000 Volts

Forward Current - 5.0 Amperes

Features

- Plastic material used carries Underwriters Laboratory recognition 94V-0
- High surge current capability
- Ideal for printed circuit board
- Typical I_R less than $1 \mu A$
- Built-in printed board stand offs
- High temperature soldering guaranteed: $250^\circ C$ for 5 seconds

RS-5



Mechanical Data

- **Case:** Reliable low cost construction utilizing molded plastic technique
- **Terminals:** Leads solderable per MIL-STD-202, method 208
- **Mounting Position:** Any
- **Weight:** 0.92 ounce, 25.3 grams

DIM	DIMENSIONS				Note
	MIN	MAX	MIN	MAX	
A	0.825	0.850	21.0	21.7	
B	1.0	—	25.4	—	
C	1.250	1.260	31.8	32.0	
D	0.180	0.195	4.6	5.0	
E	0.245	0.250	6.2	6.4	
F1	0.255	0.260	6.5	6.6	
F2	0.285	0.290	7.2	7.4	
F3	0.285	0.290	7.2	7.4	
F4	0.245	0.250	6.2	6.4	
G	0.525	0.540	13.3	13.7	1
H	0.755	0.820	19.2	20.8	
J	—	0.100 (0.5140)	—	—	

Maximum Ratings and Electrical Characteristics

Ratings at $25^\circ C$ ambient temperature unless otherwise specified. resistive or inductive load at 50Hz or 60Hz.

	Symbols	RS501	RS502	RS503	RS504	RS505	RS506	RS507	Units
Maximum repetitive peak reverse voltage	V_{RRM}	65	125	200	400	600	800	1000	Volts
Maximum RMS input voltage R + C-Load	V_{RMS}	40	80	125	250	380	500	630	Volts
Maximum DC blocking voltage ¹⁾	V_{DC}	65	125	200	400	600	800	1000	Volts
Maximum non-repetitive peak reverse voltage ¹⁾	V_{RSM}	100	190	300	600	900	1200	1500	Volts
Maximum average forward output current I_{FAVM} natural cooling, $T_A=45^\circ C$ C-Load R+L-Load on chassis=31in ² , 200cm ² ; $T_A=45^\circ C$ C-Load R+L-Load	$I_{(AV)}$	3.3 4.0 5.0 6.0							Amps
Maximum repetitive peak forward surge current	I_{FRM}	30.0							APK
Peak surge forward current single sine-wave on rated load $T_J=25^\circ C$ $T_J=150^\circ C$	I_{FSM}	250 200							APK
I^2t Rating for fusing ($t>8.3mS$) $T_J=25^\circ C$ $T_J=150^\circ C$	I^2t	312 200							A ² S A ² S
Minimum series resistance at V_{RMS}	R	0.15	0.3	0.6	1.2	1.8			OHM
Maximum reservoir capacitor	C	10000	5000	5000	2500	1000			μF
Maximum reverse current at rated repetitive peak voltage $T_J=25^\circ C$ $T_J=150^\circ C$	I_R	10 6.0							μA mA
Maximum instantaneous forward voltage drop per element at 5.0A	V_F	1.1							VPK
Operating and storage temperature range	T_J, T_{STG}	-55 to +150							$^\circ C$

Note:

(1) Valid for each bridge element

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

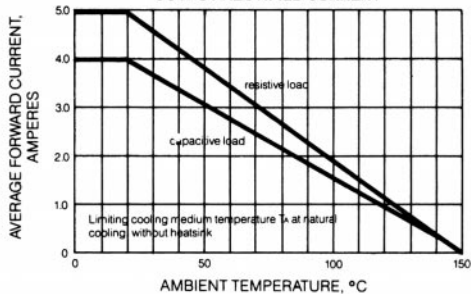


FIG. 2 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT

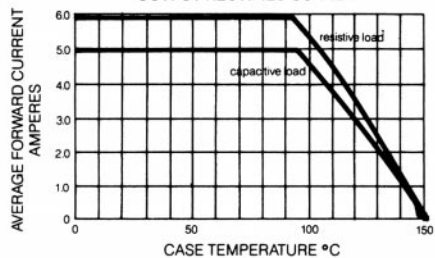


FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PER BRIDGE ELEMENT

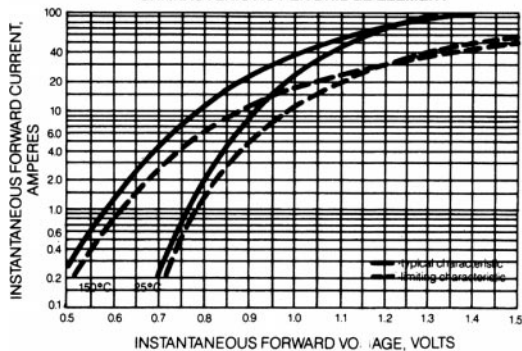


FIG. 4 — MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

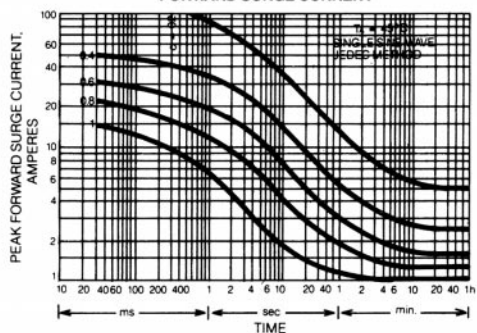


FIG. 5 — MAXIMUM TOTAL BRIDGE POWER DISSIPATION

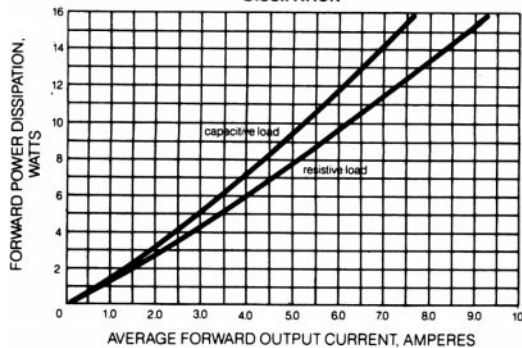


FIG. 6 — MEAN AVERAGE FORWARD CURRENT CASE TEMPERATURE

