



# RS501 THRU RS507

## SINGLE-PHASE SILICON BRIDGE

Reverse Voltage - 65 to 1000 Volts

Forward Current - 5.0 Amperes

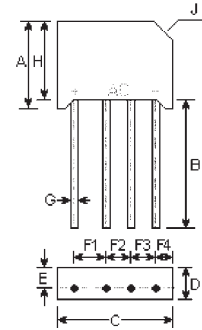
### Features

- 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

### 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

#### RS-5



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	7.3	7.4	
F3	0.285	0.290	7.3	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.

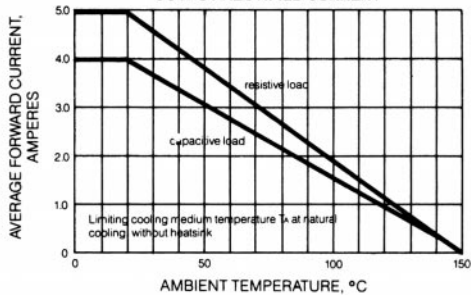
	Symbols	RS501	RS502	RS503	RS504	RS505	RS506	RS507	Units
Maximum repetitive peak reverse voltage	$V_{RRM}$	65	125	200	400	600	800	1000	Volts
Maximum RMS input voltage R + C-Load	$V_{RMS}$	40	80	125	250	380	500	630	Volts
Maximum DC blocking voltage <sup>1)</sup>	$V_{DC}$	65	125	200	400	600	800	1000	Volts
Maximum non-repetitive peak reverse voltage <sup>1)</sup>	$V_{RSM}$	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 <sup>2</sup> , 200cm <sup>2</sup> ; $T_A=45^\circ C$ 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 <sup>2</sup> S A <sup>2</sup> 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			$\mu F$
Maximum reverse current at rated repetitive peak voltage $T_J=25^\circ C$ $T_J=150^\circ C$	$I_R$	10 6.0							$\mu A$ 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:

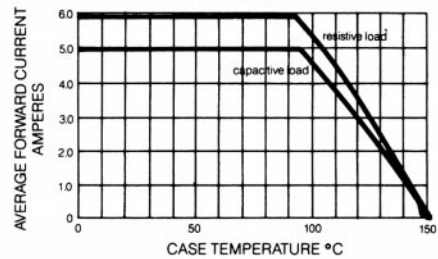
(1) Valid for each bridge element

## RATINGS AND CHARACTERISTIC CURVES

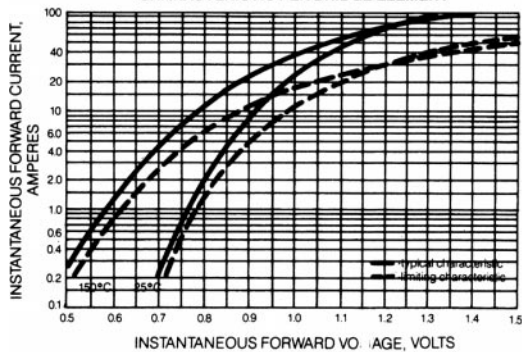
**FIG. 1 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



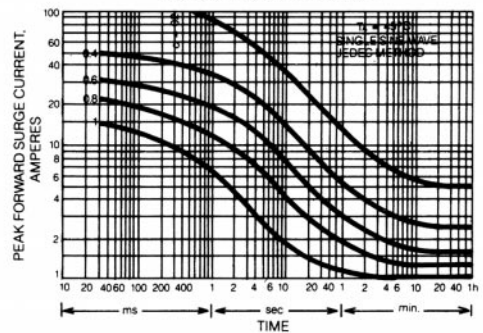
**FIG. 2 — DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



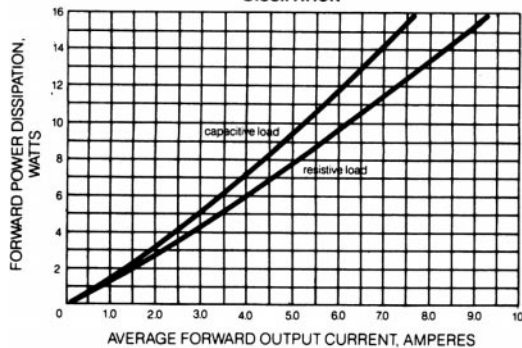
**FIG. 3 — TYPICAL INSTANTANEOUS FORWARD CHARACTERISTIC PER BRIDGE ELEMENT**



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



**FIG. 5 — MAXIMUM TOTAL BRIDGE POWER DISSIPATION**



**FIG. 6 — MEAN AVERAGE FORWARD CURRENT CASE TEMPERATURE**

