



MASTER INSTRUMENT CORPORATION

Schottky Barrier Rectifiers SR520 THRU SR5100

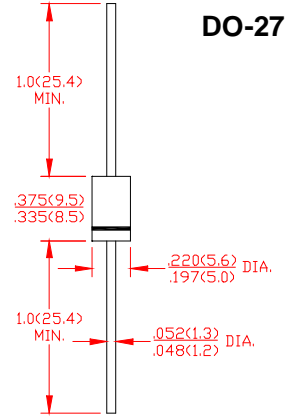
VOLTAGE RANGE 20 to 100 Volts
Forward Current 5.0 Amperes

FEATURES

- l Fast switching
- l Low forward voltage, high current capability.
- l Low power loss high efficiency
- l High current surge capability
- l Fast switching for high efficiency
- l High temperature soldering guaranteed:
250°C/10 second, at terminals

MECHANICAL DATA

- l Case: Transfer molded plastic
- l Terminal: UL94v-0 rate flame retardant
- l Polarity: Color band denotes cathode end.
- l Lead Plated axial lead ,solderable per MIL-STD-202E method
208C
- l Mounting position: Any.
- l Weight: 0.042 ounce 1.19 gram



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

	SYMBOLS	SR520	SR530	SR540	SR550	SR560	SR580	SR590	SR5100	UNITS
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	20	30	40	50	60	80	90	100	Volts
Maximum RMS Voltage	V_{RMS}	14	21	28	35	42	57	63	70	Volts
Maximum DC Blocking Voltage	V_{DC}	20	30	40	50	60	80	90	100	Volts
Maximum Average Forward Rectified Current, See Fig2	$I_{(AV)}$	5.0								Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150								Amps
Maximum Instantaneous Forward Voltage Drop per bridge element at 5A	V_F	0.55			0.70		0.80	0.85		Volts
Maximum DC Reverse Current at rated DC blocking voltage per element	$T_A=25^\circ\text{C}$	5.0								MAmps
	$T_A=100^\circ\text{C}$	50								
Typical Junction Capacitance (Note 2)	C_j	150								pF
Typical Thermal Resistance (Note 3)	$R_{\theta JA}$	25								°C/W
Operating and Storage Temperature Range	T_j	-65 to +125				-65 to +150				°C
Storage Temperature Range	T_{STG}	-65 to +150								°C

NOTES:

1. Pulse test: 300 us pulse width 1% duty cycle
2. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
3. Thermal resistance from junction to ambient P.C.B mounted with 0.375"(9.5mm) lead length with 1.5"X1.5"(38 X38mm) copper pads.



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RATINGS AND CHARACTERISTIC CURVES SR520 THRU SR5100

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

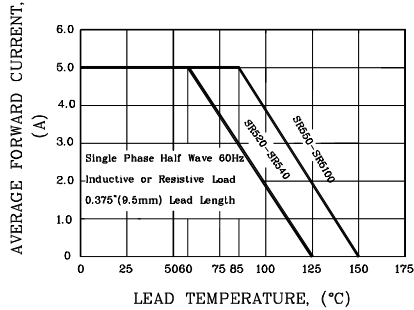


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

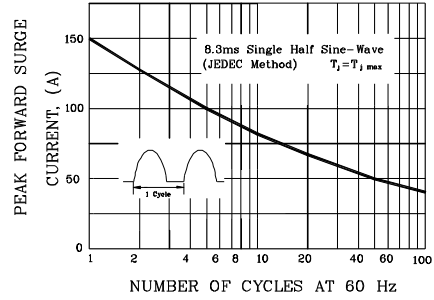


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

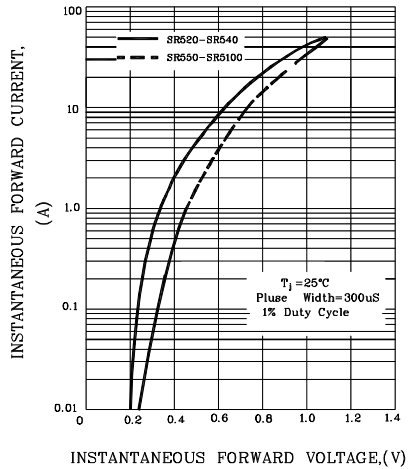


FIG.4-TYPICAL REVERSE CHARACTERISTICS

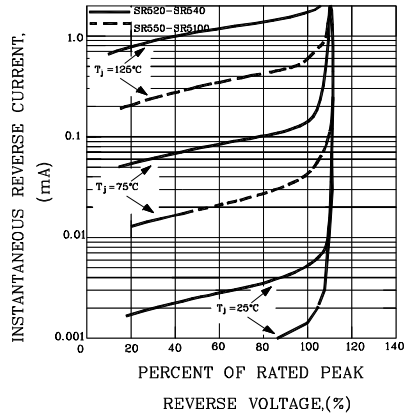


FIG.5-TYPICAL JUNCTION CAPACITANCE

