

New Jersey Semi-Conductor Products, Inc.

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30S SERIES

DESCRIPTION/FEATURES

- ECONOMICAL SERIES
- HIGH SURGE, 150 AMP MAXIMUM
- UNIVERSAL REPLACEMENT FOR MANY GLASS, EPOXY, ENCAPSULATED, AND METALLIC RECTIFIERS
- PEAK REVERSE VOLTAGES THROUGH 1000 VOLTS

VOLTAGE RATINGS

Part Number	V_{RRM} - Working Peak Reverse Voltage (V)	V_R - Max. Direct Reverse Voltage (V)
	$T_J = -65^\circ\text{C}$ to 175°C	$T_J = -65^\circ\text{C}$ to 175°C
30S1	100	100
30S2	200	200
30S3	300	300
30S4	400	400
30S5	500	500
30S6	600	600
30S8	800	800
30S10	1000	1000

ELECTRICAL SPECIFICATIONS

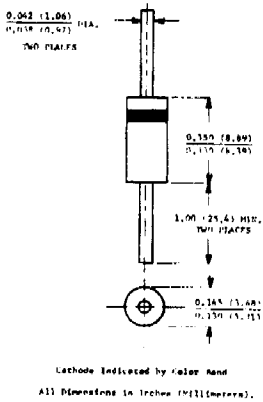
Symbol	Parameter	Value	Units	Conditions
$I_F(AV)$	Max. average forward current	3.0	A	1 phase operation, 180° conduction, $T_L = 125^\circ\text{C}$, lead length 9.5 mm (0.375 in.)
I_{FSM}	Max. peak one-cycle non-repetitive surge current	143	A	Half cycle 50 Hz sine wave or 6 ms rectangular pulse Following any rated load condition and with rated V_{RRM} applied.
		150		
		170		
		178		
I^2t	Max. I^2t for fusing	103	A^2s	With rated V_{RRM} applied following $t = 10$ ms surge, initial $T_J = 175^\circ\text{C}$.
		94		
		146		
$I^2\sqrt{t}$	Max. $I^2\sqrt{t}$ for individual device fusing	146	$A^2\sqrt{s}$	With $V_{RRM} = 0$ following surge, $t = 10$ ms initial $T_J = 175^\circ\text{C}$.
		133		
V_{FM}	Max. peak forward voltage	1.0	V	$I_F(AV) = 3A$ (9.4A peak), $T_J = 25^\circ\text{C}$.
$I_R(AV)$	Max. average reverse current	0.3	mA	Max. rated $I_F(AV)$, V_{RRM} and $T_L = 100^\circ\text{C}$. ($l = 9.5$ mm (0.375 in.))

⊙ I^2t for time $t_x = I^2\sqrt{t} \cdot \sqrt{t_x}$.

THERMAL-MECHANICAL SPECIFICATIONS

Symbol	Parameter	Value	Units	Notes
T_J	Max. operating junction temperature range	-65 to 175	$^\circ\text{C}$	
T_{stg}	Max. storage temperature range	-65 to 175	$^\circ\text{C}$	
R_{thJC}	Max. internal thermal resistance, junction-to-lead	16.5	deg. C/W	DC operation, double-side cooled, measured 9.5 mm (0.375 in.) from body.
wt	Approximate weight	0.65 (0.023)	g (oz.)	

3 AMP MEDIUM POWER SILICON RECTIFIER DIODES



MECHANICAL CHARACTERISTICS

- CASE: Molded plastic use Flame Retardant Epoxy.
- TERMINALS: Axial leads, solderable per MIL-STD-202, Method 208.
- POLARITY: Color band denotes cathode.
- MOUNTING POSITION: Any.



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