

# New Jersey Semi-Conductor Products, Inc.

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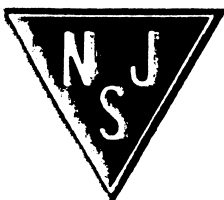
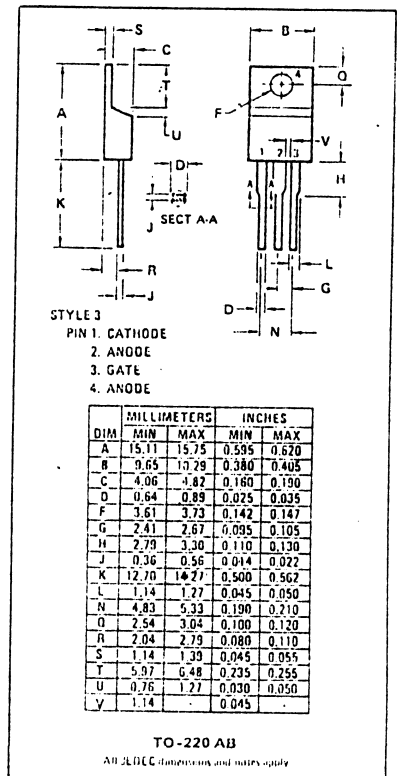
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## 2N6398

SILICON CONTROLLED  
 RECTIFIER

*MAXIMUM RATINGS			
Rating	Symbol	Value	Unit
Peak Repetitive Forward and Reverse Blocking Voltage ( $T_J = -40$ to $125^\circ\text{C}$ )	$V_{RRM}$ $V_{DRM}$	600	Volts
RMS On-State Current $T_C = 90^\circ\text{C}$ (All Conduction Angles)	$I_T(\text{RMS})$	12	Amps
Peak Non-Repetitive Surge Current (1/2 cycle, Sine Wave, 60 Hz, $T_J = 125^\circ\text{C}$ )	$I_{TSM}$	100	Amps
Circuit Fusing ( $T_J = -40$ to $+125^\circ\text{C}$ , $t = 1.0$ to $8.3$ ms)	$I^2t$	40	$\text{A}^2\text{s}$
Forward Peak Gate Power	$P_{GM}$	20	Watts
Forward Average Gate Power	$P_{G(AV)}$	0.5	Watt
Forward Peak Gate Current	$I_{GM}$	2.0	Amps
Operating Junction Temperature Range	$T_J$	-40 to +125	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-40 to +150	$^\circ\text{C}$
THERMAL CHARACTERISTICS			
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.0	$^\circ\text{C}/\text{W}$

\*Indicates JEDEC Registered Data.



NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.

ELECTRICAL CHARACTERISTICS ( $T_C = 25^\circ\text{C}$  unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
* Peak Forward Blocking Current ( $V_D = \text{Rated } V_{DRM}$ , $T_J = 125^\circ\text{C}$ )	$I_{DRM}$	—	—	2.0	mA
* Peak Reverse Blocking Current ( $V_R = \text{Rated } V_{RRM}$ , $T_J = 125^\circ\text{C}$ )	$I_{RRM}$	—	—	2.0	mA
* Forward "On" Voltage ( $I_{TM} = 24 \text{ A Peak}$ )	$V_{TM}$	—	1.7	2.2	Volts
* Gate Trigger Current (Continuous dc) ( $V_D = 12 \text{ Vdc}$ , $R_L = 100 \text{ Ohms}$ )	$I_{GT}$	—	5.0	30	mA
* Gate Trigger Voltage (Continuous dc) ( $V_D = 12 \text{ Vdc}$ , $R_L = 100 \text{ Ohms}$ )	$V_{GT}$	—	0.7	1.5	Volts
( $V_D = \text{Rated } V_{DRM}$ , $R_L = 100 \text{ Ohms}$ , $T_J = 125^\circ\text{C}$ )	$V_{GD}$	0.2	—	—	Volts
* Holding Current ( $V_D = 12 \text{ Vdc}$ )	$I_H$	—	6.0	40	mA
Turn-On Time ( $I_{TM} = 12 \text{ A}$ , $I_{GT} = 40 \text{ mAdc}$ , $V_D = \text{Rated } V_{DRM}$ )	$t_{gt}$	—	1.0	2.0	$\mu\text{s}$
Turn-Off Time ( $V_D = \text{Rated } V_{DRM}$ ) ( $I_{TM} = 12 \text{ A}$ , $I_R = 12 \text{ A}$ ) ( $I_{TM} = 12 \text{ A}$ , $I_R = 12 \text{ A}$ , $T_J = 125^\circ\text{C}$ )	$t_q$	—	15	—	$\mu\text{s}$
Critical Rate-of-Rise of Off-State Voltage Exponential ( $V_D = \text{Rated } V_{DRM}$ , $T_J = 125^\circ\text{C}$ )	$dv/dt$	—	50	—	$\text{V}/\mu\text{s}$

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