

# New Jersey Semi-Conductor Products, Inc.

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SPRINGFIELD, NEW JERSEY 07081  
U.S.A.

**1N5614      S2M**  
**1N5616      S4M**  
**1N5618      S6M**  
**1N5620      S8M**  
**1N5622      S0M**

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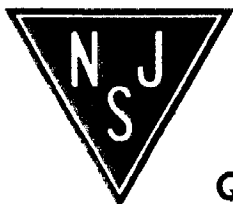
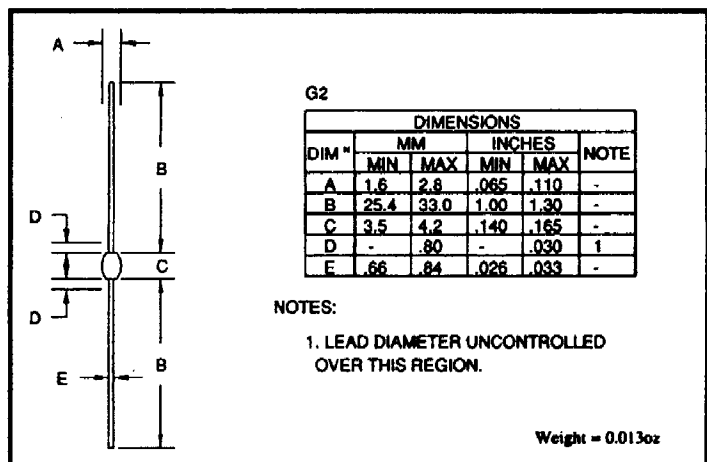
## QUICK REFERENCE DATA      AXIAL LEADED HERMETICALLY SEALED STANDARD RECOVERY RECTIFIER DIODE

- $V_R = 200 - 1000V$
- $I_F = 2.0A$
- $t_{rr} = 2\mu S$
- $V_F = 1.1V$
- Low reverse leakage current
- Hermetically sealed in Metoxillite fused metal oxide
- Good thermal shock resistance
- Low forward voltage drop
- Avalanche capability.

### ABSOLUTE MAXIMUM RATINGS (@ 25°C unless otherwise specified)

	Symbol	1N5614	1N5616	1N5618	1N5620	1N5622	Unit
		S2M	S4M	S6M	S8M	S0M	
Working reverse voltage	$V_{RWM}$	200	400	600	800	1000	V
Repetitive reverse voltage	$V_{RRM}$	200	400	600	800	1000	V
Average forward current (@ 55°C, lead length 0.375")	$I_{F(AV)}$	←—————		2.0	—————→		A
Repetitive surge current (@ 55°C in free air, lead length 0.375")	$I_{FRM}$	←—————		10	—————→		A
Non-repetitive surge current ( $t_p = 8.3mS$ , @ $V_R$ & $T_{jmax}$ )	$I_{FSM}$	←—————		30	—————→		A
Storage temperature range	$T_{STG}$	←—————		-65 to +175	—————→		°C
Operating temperature range	$T_{OP}$	←—————		-65 to +175	—————→		°C

### MECHANICAL



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.

**Quality Semi-Conductors**

**CHARACTERISTICS** (@ 25°C unless otherwise specified)

	Symbol	1N5614	1N5616	1N5618	1N5620	1N5622	Unit
		S2M	S4M	S6M	S8M	S0M	
Average forward current (sine wave) - max. pcb mounted; $T_A = 55^\circ\text{C}$ - max. $L = 3/8"$ ; $T_L = 55^\circ\text{C}$	$I_{F(AV)}$	←———— 1.0 —————→					A
	$I_{F(AV)}$	←———— 2.0 —————→					A
$I^2t$ for fusing ( $t = 8.3\text{ms}$ ) max.	$I^2t$	←———— 5.0 —————→					$\text{A}^2\text{S}$
Forward voltage drop max. @ $I_F = 1.0\text{A}$ , $T_j = 25^\circ\text{C}$	$V_F$	←———— 1.1 —————→					V
Reverse current max. @ $V_{RWM}$ , $T_j = 25^\circ\text{C}$	$I_R$	←———— 0.5 —————→					$\mu\text{A}$
@ $V_{RWM}$ , $T_j = 100^\circ\text{C}$	$I_R$	←———— 25 —————→					$\mu\text{A}$
Reverse recovery time max. 0.5A $I_F$ to 1.0A $I_R$ . Recovers to 0.25A $I_{RR}$ .	$t_{rr}$	←———— 2.0 —————→					$\mu\text{S}$
Junction capacitance typ. @ $V_R = 5\text{V}$ , $f = 1\text{MHz}$	$C_j$	←———— 23 —————→					$\text{pF}$
Thermal resistance - junction to lead Lead length = 0.375"	$R_{\theta JL}$	←———— 38 —————→					$^\circ\text{C/W}$
Lead length = 0"	$R_{\theta JL}$	←———— 7 —————→					$^\circ\text{C/W}$
Thermal resistance - junction to amb. on 0.06" thick pcb. 1 oz. copper.	$R_{\theta JA}$	←———— 95 —————→					$^\circ\text{C/W}$

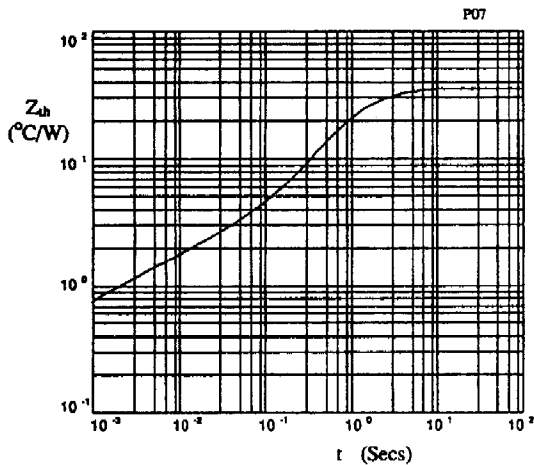


Fig 1. Transient thermal impedance characteristic.

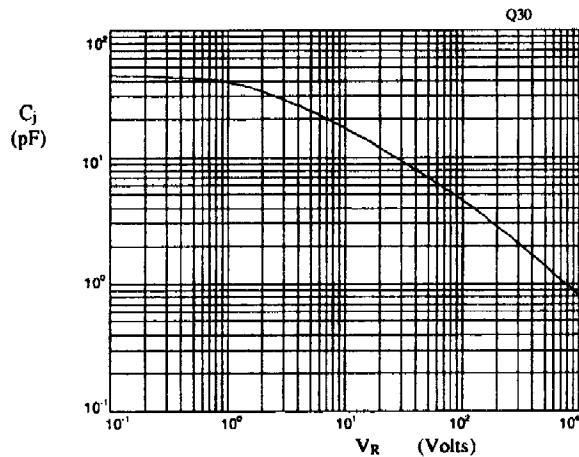


Fig 2. Typical junction capacitance as a function of reverse voltage.