



**NIC COMPONENTS CORP.**

70 Maxess Road • Melville, New York 11747  
(516) 396-7500 • Fax (516) 396-7575

11/01/99

## CHARACTERISTICS

**PRODUCTS: SMT DIODES**  
**SERIES: NRD**

TYPE: SMA SIZE FLAT CHIP SILICON RECTIFIER DIODES

SUB: POWER DISSIPATION CHARACTERISTICS

POWER DISSIPATION (PD) IS DEPENDENT ON THE MAXIMUM RATED JUNCTION TEMPERATURE ( $T_J$ ), THE AMBIENT OPERATION TEMPERATURE ( $T_A$ ) AND THE THERMAL RESISTANCE OF THE JUNCTION ( $R_{\theta JA}$ ) BY THE FOLLOWING FORMULA:

$$Pd = \frac{T_J(\text{max.}) - T_A}{R_{\theta JA}}$$

For P/N: NRD4004:  $T_J(\text{max.}) = +175^\circ\text{C}$   
 $R_{\theta JA} = 50^\circ\text{C/W}$

<b><math>T_A = 25^\circ\text{C}</math></b>	<b><math>Pd = 3.0 \text{ Watt}</math></b>
<b><math>T_A = 50^\circ\text{C}</math></b>	<b><math>Pd = 2.5 \text{ Watt}</math></b>
<b><math>T_A = 75^\circ\text{C}</math></b>	<b><math>Pd = 2.0 \text{ Watt}</math></b>
<b><math>T_A = 100^\circ\text{C}</math></b>	<b><math>Pd = 1.5 \text{ Watt}</math></b>
<b><math>T_A = 125^\circ\text{C}</math></b>	<b><math>Pd = 1.0 \text{ Watt}</math></b>

Note: These figures are based on copper land pattern area of 6.0mm squared.

ISO 9002 REGISTERED