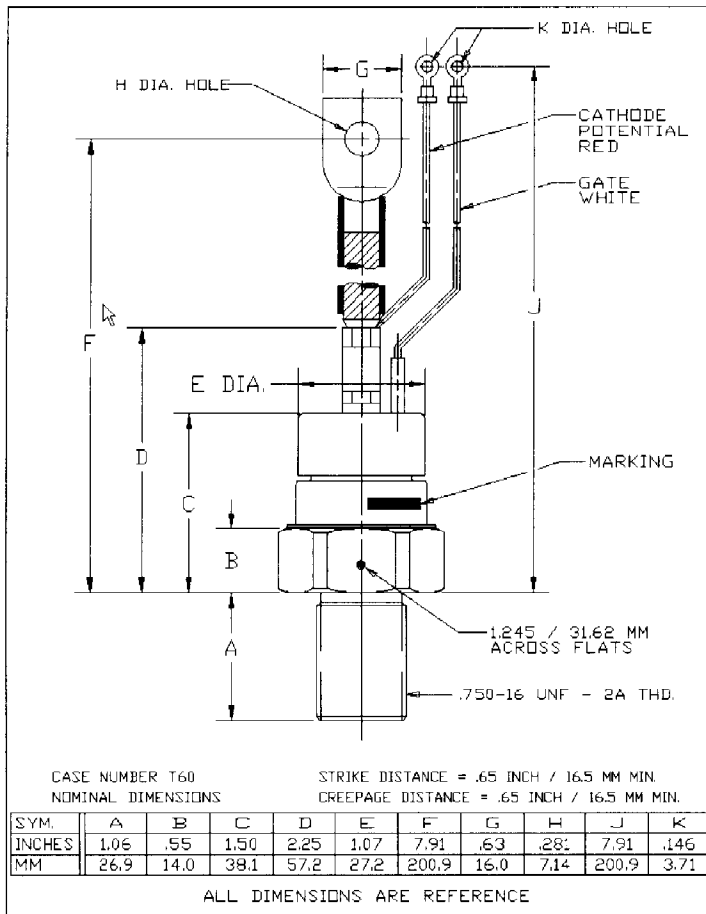


New Jersey Semi-Conductor Products, Inc.

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**T600 SERIES**

**Phase Control SCR**  
**150-175 Amperes**  
**1600 Volts**

**Ordering Information:**

Select the complete 12 digit part number you desire from the table, i.e. T600121504BT is a 1200V, 150A Phase Control SCR.

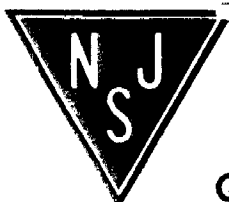
Type	Voltage		Current		Turn off	Gate Current	Leads
	$V_{DRM}$ $V_{RRM}$	Code	$I_{T(av)}$	Code	$t_q$ Code	$I_{GT}$ Code	Code
T600	100	01	150	15	0 100 $\mu$ sec (Typical)	4 150 mA	BT
	200	02	175	18			
	300	03					
	400	04					
	500	05					
	600	06					
	700	07					
	800	08					
	900	09					
	1000	10					
	1100	11					
	1200	12					
	1300	13					
	1400	14					
1500	15						
1600	16						

**Features:**

- Low On-State Voltage
- High di/dt
- High dv/dt
- Hermetic Packaging
- Excellent Surge and  $I^2t$  Ratings

**Applications:**

- Power Supplies
- Battery Chargers
- Motor Control
- Welders



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**

### Absolute Maximum Ratings

	Symbol	T600 _ _ 15	T600 _ _ 18	Units
RMS On-State Current	$I_{T(RMS)}$	235	275	Ampere
Average On-State Current	$I_{T(AV)}$	150	175	Ampere
Peak One-Cycle Surge (Non-Repetitive) On-State Current (60Hz)	$I_{TSM}$	4000	5500	Ampere
Peak One-Cycle Surge (Non-Repetitive) On-State Current (50Hz)	$I_{TSM}$	3650	5000	Ampere
Critical Rate-of-Rise of On-State Current (Non-Repetitive)	$di/dt$	800	800	Ampere/ $\mu$ s
Critical Rate-of-Rise of On-State Current (Repetitive)	$di/dt$	150	150	Ampere/ $\mu$ s
$Pt$ (for Fusing), 8.3 milliseconds	$Pt$	66,000	120,000	$A^2$ sec
Peak Gate Power Dissipation	$P_{GM}$	16	16	Watts
Average Gate Power Dissipation	$P_{G(AV)}$	3	3	Watts
Storage Temperature	$T_{STG}$	-40 to 150	-40 to 150	$^{\circ}$ C
Operating Temperature	$T_J$	-40 to 125	-40 to 125	$^{\circ}$ C
Mounting Torque		300	300	in.-lb.
Mounting Torque (Lubricated)		340	340	kg-cm

### Electrical and Thermal Characteristics

Characteristics	Symbol	Test Conditions	T600 _ _ 15	T600 _ _ 18	Units
<b>Current—Conducting State Maximums</b>					
Peak On-State Voltage	$V_{TM}$	$T_J = 25^{\circ}$ C, $I_T = 625$ A	1.8	1.55	Volts
<b>T600</b>					
<b>Voltage—Blocking State Maximums</b>					
Forward Leakage, Peak	$I_{DFM}$	$T_J = 125^{\circ}$ C, $V_{DFM} = \text{rated}$		25	mA
Reverse Leakage, Peak	$I_{RFM}$	$T_J = 125^{\circ}$ C, $V_{RFM} = \text{rated}$		25	mA
<b>Switching</b>					
Typical Turn-Off Time	$t_f$			100	$\mu$ sec
Typical Turn-On Time	$t_{on}$	$I_T = 100$ A, $V_D = 100$ V		5	$\mu$ sec
Min. Critical $dv/dt$ exponential to $V_{DFM}$	$dv/dt$	$T_J = 125^{\circ}$ C		300	V/ $\mu$ sec
<b>Thermal</b>					
Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$			0.13	$^{\circ}$ C/Watt
Case to Sink, Lubricated	$R_{\theta CS}$			0.075	$^{\circ}$ C/Watt
<b>Gate—Maximum Parameters</b>					
Gate Current to Trigger	$I_{GT}$	$T_J = 25^{\circ}$ C, $V_D = 12$ V		150	mA
Gate Voltage to Trigger	$V_{GT}$	$T_J = 25^{\circ}$ C, $V_D = 12$ V		3	Volts
Non-Triggering Gate Voltage	$V_{GDM}$	$T_J = 125^{\circ}$ C, $V_{DFM} = \text{rated}$		0.15	Volts
Peak Forward Gate Current	$I_{GTM}$			4	Ampere
Peak Reverse Gate Voltage	$V_{GRM}$			5	Volts