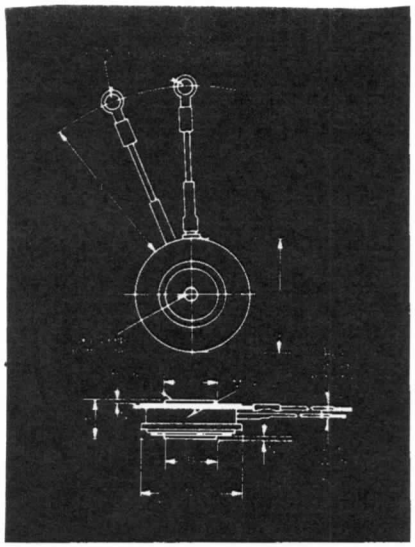
New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960



T62 Outline

Symbol	Inches		Millimeters	
	Min.	Max.	Min.	Max.
ϕD	1.610	1.650	40.89	41.91
ϕD_1	.745	.755	18.92	19.18
ϕD_2	1.420	1.460	36.07	37.08
H	.500	.560	12.70	14.22
ϕJ	.135	.145	3.43	3.68
J_1	.072	.082	1.83	2.08
L	7.75	8.50	196.85	215.90
N	.030		.76	

Creep Distance—.34 in. min. (8.64 mm).
Strike Distance—.26 in. min. (6.60 mm).
(In accordance with NEMA standards.)
Finish—Nickel Plate.
Approx. Weight—2.3 oz. (66 g).
1. Dimension "H" is clamped dimension.

T627 SERIES

SCR FAST SWITCHING
150A Avg up to 1200 Volts

Features:
- Center fired di/namic gate
- High di/dt with soft gate control
- High frequency operation
- Sinusoidal waveform operation to 20 KHz
- Rectangular waveform operation to 20 KHz
- Low dynamic forward voltage drop
- Low switching losses at high frequency

Applications:
- Inverters for
  - Ups
  - Induction Heating
  - Motor Control
- Choppers
- Crowbars

Ordering Information

Type	Voltage		Current		Turn-off		Gate Current		Leads	
	V_{DRM} and V_{RRM} (V)	Code	$I_{T(av)}$ (A)	Code	tq μsec	Code	I_{GT} (ma)	Code	Case	Code
T62	100	01	150	15	10	8	150	4	T62	DN
	200	02			15	7				
	300	03			20	6				
	400	04			30	5				
	500	05			40	4				
	600	06			50	3				
	700	07								
	800	08								
	900	09								
	1000	10								
	1100	11								
	1200	12								

Example

Obtain optimum device performance for your application by selecting proper Order Code.

Type T627 rated at 150A average with $V_{DRM} = 1000V$, $I_{GT} = 150$ ma, tq = 20 μsec max. and flex leads—order as:

Type				Voltage		Current		Turn Off	Gate Current	Leads	
T	6	2	7	1	0	1	5	6	4	D	N

*for 10 μsec turn-off.

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

Voltage

Blocking State Maximums ② (T_J = 125°C)

	Symbol											
Repetitive peak forward blocking voltage, V	V_{DRM}	100	200	300	400	500	600	700	800	900	1000	1100	1200
Repetitive peak reverse voltage, V	V_{RRM}	100	200	300	400	500	600	700	800	900	1000	1100	1200
Non-repetitive transient peak reverse voltage, $t \leq 5.0$ msec, V	V_{RSM}	200	300	400	500	600	700	800	900	1000	1100	1200	1300
Forward leakage current, mA peak	I_{DRM}	← 25 →											
Reverse leakage current, mA peak	I_{RRM}	← 25 →											

Current

Conducting State Maximums (T_J = 125°C)	Symbol	T627__15
RMS forward current, A	$I_{T(rms)}$	235
Ave. forward current, A	$I_{T(av)}$	150
One-half cycle surge current③, A	I_{TSM}	3500
I^2t for fusing (for times ≥ 8.3 ms) A^2 sec.	I^2t	50,000
Forward voltage drop at I_{TM} = 625A and T_J = 25°C, V	V_{TM}	2.35
Min. repetitive di/dt④, A/μsec ①④⑥	di/dt	200

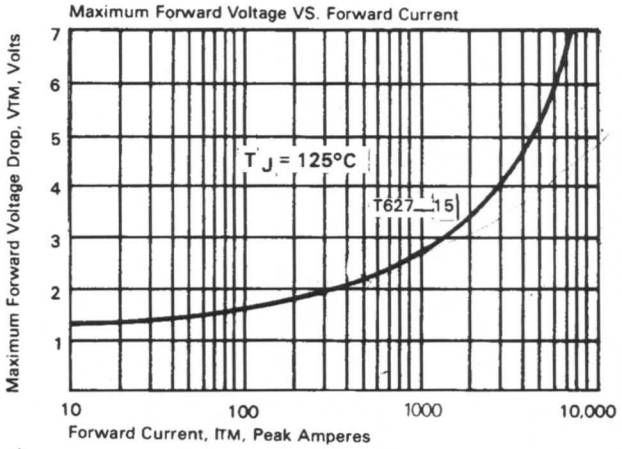
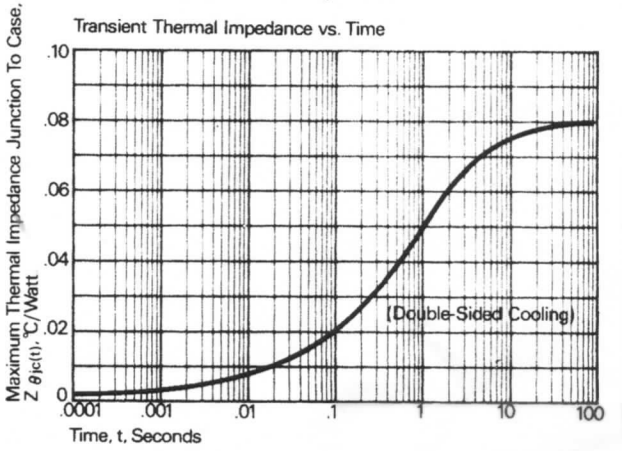
Switching

(T_J = 25°C)	Symbol	
Max. turn-off time, I_T = 150A, T_J = 125°C, di_R/dt = 12.5 ⑦ A/μsec, reapplied dv/dt = 20V/μsec ⑤ linear to 0.8 V_{DRM}, μsec	t_q	10 to 50
Typ. turn-on-time, I_T = 100A V_D = 100V④, μsec	t_{on}	3.5
Min. critical dv/dt, exponential to V_{DRM}, T_J = 125°C, V/μsec②⑤	dv/dt	300
Min. di/dt A/μsec ①④⑥	di/dt	800

Gate

Maximum Parameters (T_J = 25°C)	Symbol	
Gate current to trigger at V_D = 12V, mA	I_{GT}	150
Gate voltage to trigger at V_D = 12V, V	V_{GT}	3
Non-triggering gate voltage, T_J = 125°C, and rated V_{DRM}, V	V_{GDM}	0.15
Peak forward gate current, A	I_{GTM}	4
Peak reverse gate voltage, V	V_{GRM}	5
Peak gate power, Watts	P_{GM}	16
Average gate power, Watts	$P_{G(av)}$	3

Thermal and Mechanical

	Symbol	
Min., Max. oper. junction temp., °C	T_J	−40 to +125
Min., Max. storage temp., °C	Tstg	−40 to +150
Min., Max. Mounting Force, lb.①		1000 to 1400
Max. thermal resistance, Double side cooled		
Junction to case, °C/Watt	$R_{\theta JC}$	.08
Case to sink, lubricated, °C/Watt	$R_{\theta CS}$	.02

① Consult recommended mounting procedures.
② Applies for zero or negative gate bias.
③ Per JEDEC RS-397, 5.2.2.1.
④ With recommended gate drive.
⑤ Higher dv/dt ratings available, consult factory.
⑥ Per JEDEC standard RS-397, 5.2.2.6.
⑦ For operation with antiparallel diode, consult factory.