

New Jersey Semi-Conductor Products, Inc.

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U.S.A. **2N1600**

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SILICON PNPN CONTROLLED RECTIFIER

maximum ratings — all temperatures indicated are stud temperatures

Symbol	Description	2N1600	Unit
$V_{F(off)}$	Forward Voltage in the "off" Condition at 125°C (Note 1)	50	volts
V_R	Peak Inverse Voltage — 65°C to +150°C	50	volts
I_F	Average Rectified Forward Current at 80°C	3	A
I_{FR}	Average Rectified Forward Current at 125°C	1	A
i_{FR}	Recurrent Peak Forward Current at 80°C	10	A
i_{FR}	Recurrent Peak Forward Current at 125°C	3	A
$i_{(surge)}$	Surge Current, 1 Cycle at 60 cps at 80°C	25	A
I_G	Forward Gate Current at 125°C	100	ma
V_{GR}	Gate Peak Inverse Voltage — 65°C to +150°C	5	volts
T_S	Operating Temperature Range		°C
T_{stg}	Storage Temperature Range		°C
T_J	Junction Temperature		°C
	Altitude at Maximum Ratings		ft.
	Stud Torque		in.-lbs.

specifications — all temperatures indicated are stud temperatures

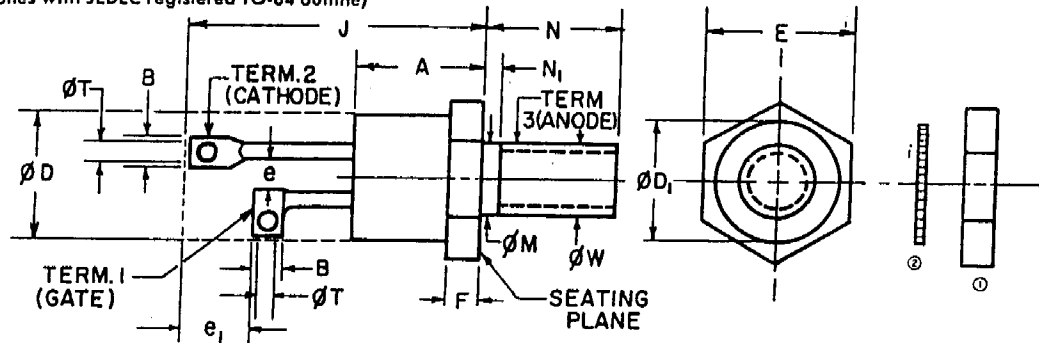
Symbol	Description	2N1600	Unit
BV_F	Min Forward Breakover Voltage at 125°C (Note 1)	60	volts
BV_R	Min Reverse Breakdown Voltage at 25°C (Note 2)	60	volts
I_R	Max dc Reverse Current at Rated V_R at 25°C	0.25	ma
I_R	Max dc Reverse Current at Rated V_R at 125°C	1	ma
$I_{F(off)}$	Max dc Forward Current at $V_{F(off)}$ at 25°C	0.25	ma
$I_{F(off)}$	Max dc Forward Current at $V_{F(off)}$ at 125°C	1	ma
V_F	Max Forward Voltage Drop at $I_F = 3A_{dc}$ at 25°C	2	volts
I_{GT}	Max Gate Current to Trigger at 25°C (Note 3)	10	ma
V_{GT}	Min Gate Voltage to Trigger at 125°C (Note 3)	0.25	volts
I_H	Max Holding Current at 25°C	25	ma
BV_G	Min Gate Breakdown Voltage at 25°C (Note 2)	6	volts
V_G	Max Fwd. Gate Voltage Drop at $I_G = 25$ ma at 25°C	3	volts

NOTES:

- Measured with a 1000 ohm external shunt-resistance between the gate and cathode.
- Breakdown voltage is the voltage at which the current is 10 ma.

OUTLINE DRAWING

(Complies with JEDEC registered TO-64 outline)



- 10-32 STEEL NUT
CADMIUM PLATED
- LOCKWASHER,
CADMIUM PLATED
STEEL

NOTES:

- Contour and orientation of fixed terminal lugs are optional.
- The outline contour (with exception of hexagon) is optional within zone defined by ϕD and J .
- Minimum diameter of seating plane.
- A chamfer (or undercut) on one or both ends of hexagonal portion is optional.
- Minimum difference in terminal lengths to establish datum line for numbering terminals.
- Pitch diameter—thread 10-32 NF-2A (Coated). Reference (Screw Thread Standards for Federal Services 1957 Handbook 1957 H2A).
- Minimum spacing between terminals.
- Insulating kit available upon request.

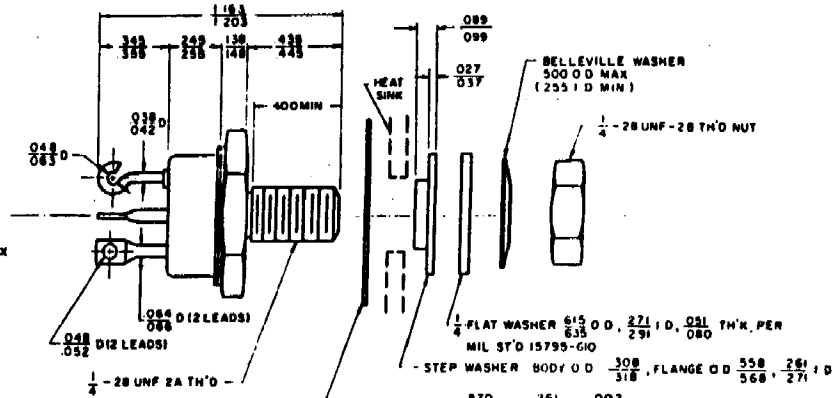
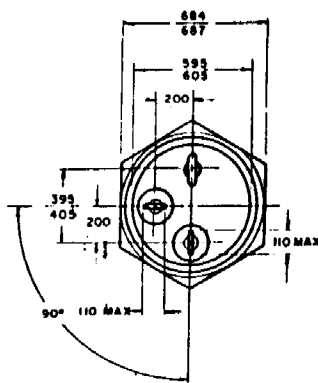
SYMBOL	INCHES		MILLIMETERS		NOTES
	MIN.	MAX.	MIN.	MAX.	
A	.300	.400	7.62	10.16	
B	.080	.136	2.03	3.45	1
ϕD		.424		10.77	2
ϕD_1	.400		10.16		3, 4
E	.424	.437	10.77	11.10	
e	.013		.330		7
e_1	.080		1.52		5
F	.060	.175	1.52	4.43	4
J	.700	.855	17.78	21.72	2
ϕM	.163	.189	4.14	4.80	
N	.400	.453	10.16	11.51	
N_1		.078		1.98	
ϕF	.040	.075	1.02	1.91	
ϕW	.165	.1697	4.212	4.316	6

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Quality Semi-Conductors



DIMENSIONAL OUTLINE $\frac{1}{16}$ "



TORQUE REQUIREMENTS (NON LUBRICATED TH'D)
 20 INCH - LBS MIN
 25 INCH - LBS MAX

MICA INSULATOR 870 O.D., 261 I.D., 002 THK
 890 O.D., 271 I.D., 004 THK

THE COLLECTOR IS ELECTRICALLY CONNECTED TO THE CASE