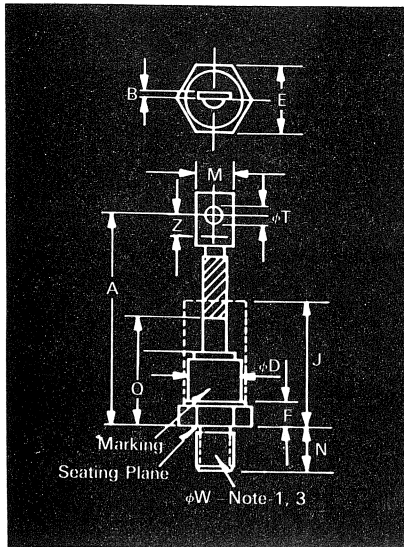




General Purpose RECTIFIER R610/R611 And R600/R601

200 — 300 A Avg.
Up to 3000 Volts



Conforms to DO-9 Outline

Applications

- Welders
- Battery Chargers
- Electrochemical Refining
- Metal Reduction
- General Industrial High Current Rectification

Ordering Information

Type	Voltage		Current		Recovery Time		Recovery Time Circuit		Leads		
	Code	V_{RRM} (V)	Code	$I_{F(av)}$ (A)	t_{rr} μ sec	Code	Circuit	Code	Case	Code	
R610 (Standard Polarity)		100	01	200	13	X	JEDEC	X	DO-9	YA	
		200									02
		400									04
R611 (Reverse Polarity)		600	06	250	11	X					
		800									08
		1000									10
		1200									12
R600 (Standard Polarity)		1400	14	300	9	X					
		1600									16
R601 (Reverse Polarity)		1800	18	300	(typical)	X					
		2000									20
		2200									22
		2400									24
		2600									26
		2800									28
		3000									30

Example

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

Type R610 rated at 250A average with $V_{RRM} = 300V$, and standard flexible lead — order as:

Example

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

Type R600 rated at 300A average with $V_{RRM} = 1200V$, and standard flexible lead — order as:

Symbol	Inches		Millimeters	
	Min.	Max.	Min.	Max.
A	5.32	6.00	135.13	152.40
B	.063	.172	1.60	4.37
ϕ D	.980	1.065	24.89	27.05
E	1.212	1.250	30.78	31.75
F	.250	.630	6.35	16.00
J	3.250		82.55	
M	.530	.755	13.46	19.18
N	.660	.749	16.76	19.02
Q		2.250		57.15
ϕ T	.330	.350	8.38	8.89
Z	.440		11.18	
ϕ W	$\frac{3}{4}$ -16 UNF-2A			

Creep & Strike Distance:

R600,601—49 in. min. (12.52 mm).

R610,611—13 in. min. (3.43 mm).

(In accordance with NEMA standards.)

Finish—Nickel Plate.

Approx. Weight—8 oz. (226g)

R600—Standard Polarity—White Ceramic

R601—Reverse Polarity—Pink Ceramic

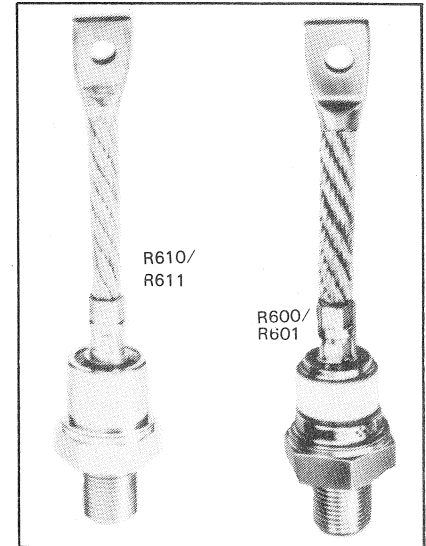
R610—Standard Polarity—Gray Glass

R611—Reverse Polarity—Yellow Glass

1. Complete threads to extend to within 2½ threads of seating plane.
2. Angular orientation of terminal is undefined.
3. Pitch diameter of $\frac{3}{4}$ -16 UNF-2A (coated) threads (ASA B1.1-1960).
4. Dimension "J" denotes seated height with lead bent at right angle.

Features

- Standard and Reverse Polarities
- Flag Lead and Stud Top Terminals Available
- High Surge Current Ratings
- High Rated Blocking Voltages
- Special Electrical Selection for Parallel and Series Operation



- Glazed Ceramic Seal Gives High Voltage Creepage and Strike Paths
- Compression Bonded Encapsulation
- JAN Types Available
- Lifetime Guarantee

GENERAL PURPOSE RECTIFIERS

Type	Voltage	Current	Time	Circuit	Leads
R 6 1 0	0 3	2 5	X	X	Y A

Type	Voltage	Current	t_{rr}	Circuit	Leads
R 6 0 0	1 2	3 0	X	X	Y A

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GENERAL PURPOSE RECTIFIERS

Voltage

Blocking State Maximums ① Symbol

Repetitive peak reverse voltage, V V_{RRM}
Non-repetitive transient peak reverse voltage,
 $V \leq 5.0$ m sec V_{RSM}

100	200	400	600	800	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000
200	300	500	700	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
← R600__20 →							← R600__20 →					← R600__20 →			
← R600__25 →							← R600__25 →								
← R600__30 →															
← R610 (All types) →															

Min., Max. oper. junction temp., °C T_J
Min., Max. storage temp., °C T_{stg}

← -65 to 190 →							← -65 to 175 →					← -65 to 150 →			
← -65 to 190 →							← -65 to 190 →					← -65 to 190 →			

Typical Reverse Recovery Time
 $I_{FM} = 785A$, $t_p = 100\mu s$
 $diR/dt = 25A/\mu s$, $T_c = 25^\circ C$, μs t_{rr}
Reverse leakage current, mA peak I_{RRM}

9							11					13			
← 50 →															

Current

Conducting State Maximums Symbol

R600__20	R600__25	R600__30
R610__20	R610__25	R610__30
R601__20	R601__25	R601__30
R611__20	R611__25	R611__30

RMS forward current, A $I_{F(rms)}$
Ave. forward current, A $I_{F(av)}$
One-half cycle surge current②, A I_{FSM}
3 cycle surge current②, A I_{FSM}
10 cycle surge current②, A I_{FSM}
 I^2t for fusing (for times 8.3 ms)
A² sec. I^2t
Forward voltage d_{fop} at $I_{FM} =$
800 A and $T_J = 25^\circ C$, V V_{FM}

315	400	470
200	250	300
5500	6000	6500
4300	4700	5050
3300	3600	3900
125,000	150,000	175,000
1.7	1.5	1.4

Thermal and Mechanical

Symbol

Max. mounting torque, in lb.③
Thermal resistance ④
Case to sink, lubricated, °C/Watt $R_{\theta CS}$

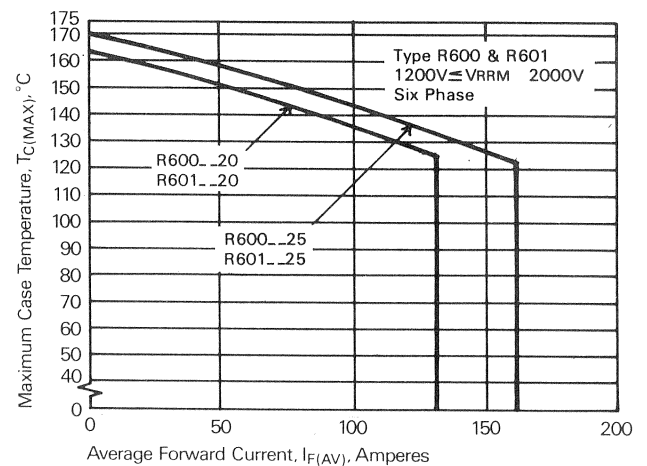
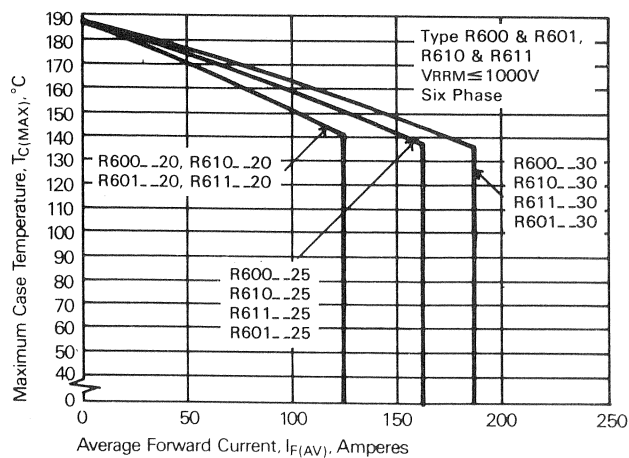
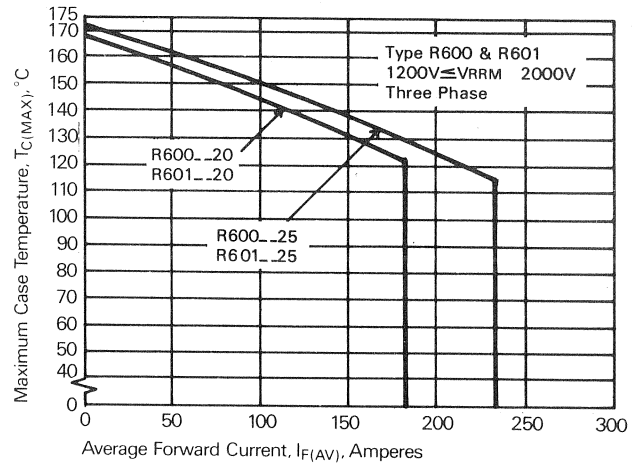
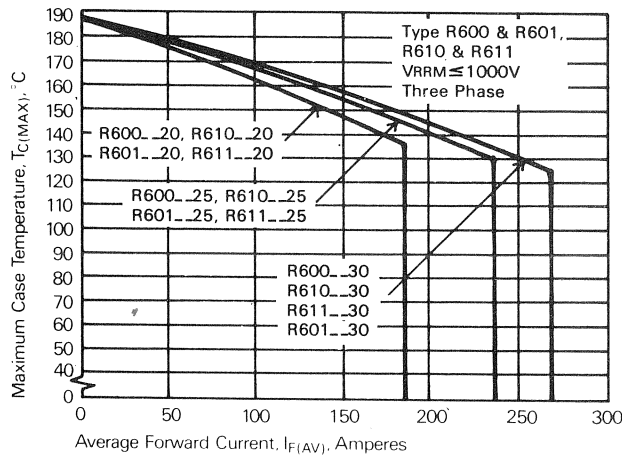
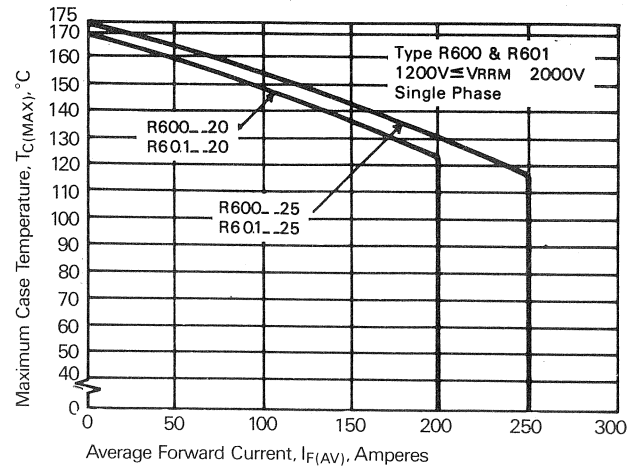
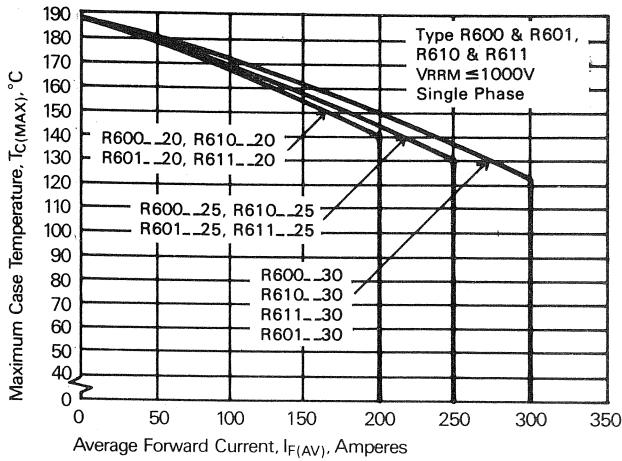
360
.10

① At maximum T_J
② Per JEDEC RS-282, 4.01 F.3.
③ Consult recommended mounting procedures.



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GENERAL PURPOSE RECTIFIERS

