

# High Power Silicon Rectifier

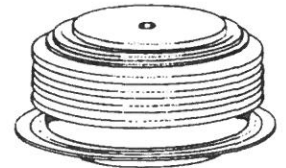
**A430**

**1500 Volts 1000A Avg.**

The A430 Series is General Electric's highly reliable, all-diffused Press-Pak 1000 ampere silicon rectifier diode.

**FEATURES:**

- Soft Reverse Recovery
- High Reverse Blocking Voltage Capability
- Pressure Contacts
- Package Reversibility
- Rugged, Glazed Ceramic Hermetic Package With 1" Creepage Path



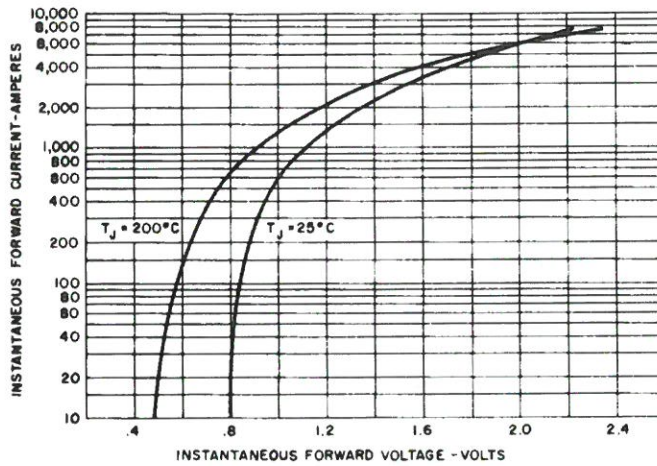
### MAXIMUM ALLOWABLE RATINGS AND SPECIFICATIONS

TYPES	REPETITIVE PEAK <sup>1</sup> REVERSE VOLTAGE $V_{RRM}$ $T_J = -40^{\circ}C$ to $+200^{\circ}C$	NON-REPETITIVE <sup>2</sup> PEAK REVERSE VOLTAGE, $V_{RSM}$ $T_J = 25^{\circ}C$ to $+200^{\circ}C$	DC REVERSE <sup>3</sup> VOLTAGE, $V_R$ $T_J = -40^{\circ}C$ to $+200^{\circ}C$	REPETITIVE PEAK REVERSE CURRENT $I_{RRM}$ @ $V_{RRM}$ $T_J = 200^{\circ}C$
A430E	500 Volts	650 Volts	500 Volts	50 mA
A430M	600	800	600	50
A430S	700	925	700	50
A430N	800	1050	800	50
A430T	900	1175	900	50
A430P	1000	1300	1000	50
A430PA	1100	1400	1100	50
A430PB	1200	1500	1200	50
• A430PC	• 1300	• 1600	• 1300	• 50
A430PD	1400	1700	1400	50
A430PE	1500	1800	1500	50

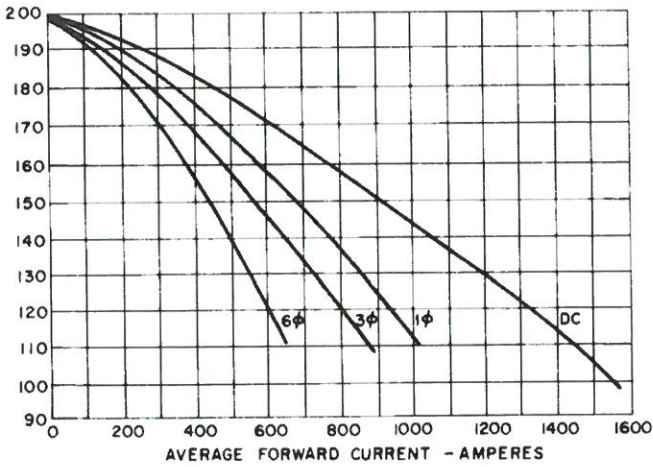
Average Forward Current,  $I_{F(AV)}$  ( $T_C = 113^{\circ}C$ , Single Phase, Half Sinewave, Double-Side Cooled) . . . . . 1,000 Amperes  
Peak One-Cycle Surge (Non-Repetitive) Forward Current,  $I_{FSM}$  . . . . . 10,000 Amperes  
Minimum  $I^2t$  Rating (for times  $\geq 1.5$  msec., Non-Repetitive) . . . . . 200,000 (RMS Ampere)<sup>2</sup> Seconds  
Minimum  $I^2t$  Rating (for times  $\geq 8.3$  msec., Non-Repetitive) . . . . . 415,000 (RMS Ampere)<sup>2</sup> Seconds  
Peak Forward Voltage Drop,  $V_{FM}$  ( $I_{F(AV)} = 1000$  Amps.; 3140 Amps. Peak,  $113^{\circ}C$  Case Temp., Single-Phase) . . . 1.42 Volts  
Maximum Thermal Resistance,  $R_{\theta JC}$ , Double-Side Cooling. . . . . 0.06°C/Watt  
Storage Temperature,  $T_{stg}$  . . . . .  $-40^{\circ}C$  to  $+200^{\circ}C$   
Operating Junction Temperature,  $T_J$  . . . . .  $-40^{\circ}C$  to  $+200^{\circ}C$   
Mounting Force Required<sup>4</sup> . . . . . 2000 Lbs  $\pm 10\%$   
8.9 KN  $\pm 10\%$

**NOTES:**

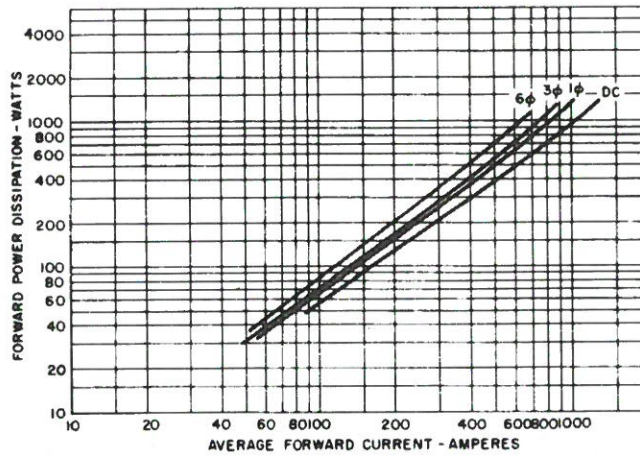
- <sup>1</sup> Assumes a heatsink thermal resistance of less than 1.1°C/watt.
- <sup>2</sup> Non-repetitive voltage and current ratings, as contrasted to repetitive ratings, apply for occasional or unpredictable overloads. For example, the forward surge current ratings are non-repetitive ratings that are used in fault coordination work.
- <sup>3</sup> Assumes a heatsink thermal resistance of less than 0.5°C/watt.
- <sup>4</sup> Refer to the SCR Manual, Fifth Edition, Chapter 18 for Press-Pak mounting instructions.



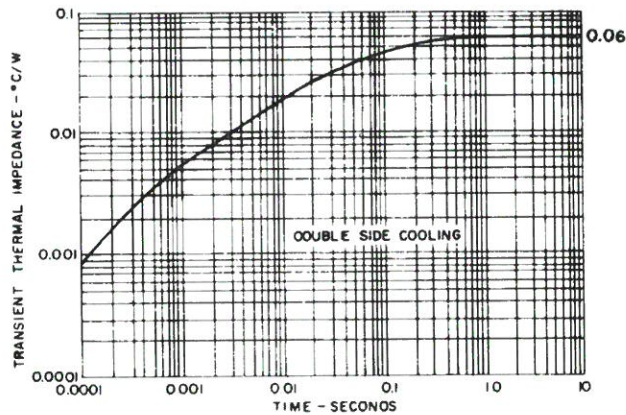
1. MAXIMUM FORWARD CHARACTERISTICS



2. MAXIMUM CASE TEMPERATURE VS. AVERAGE FORWARD CURRENT FOR DOUBLE-SIDE COOLING

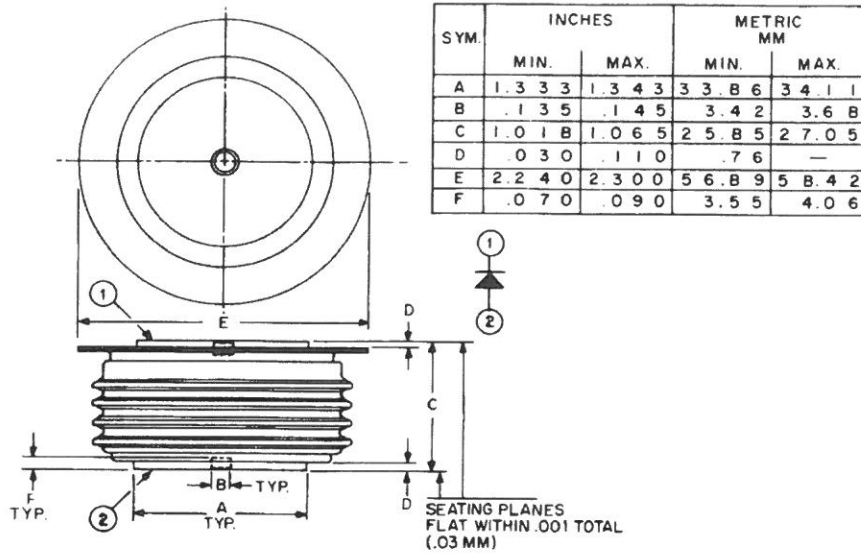


3. AVERAGE FORWARD POWER DISSIPATION VS. AVERAGE FORWARD CURRENT



4. TRANSIENT THERMAL RESISTANCE - JUNCTION-TO-CASE

OUTLINE DRAWING



MOUNTING THE A430, ONE INCH PRESS-PAK  
USING THE SERIES 2500 CLAMP

CLAMP FEATURES:

The General Electric Company offers the Series 2500 Press Pak, mounting clamp designed to facilitate single- or double-side cooling of all GE Press Pak's.

Special features of this clamp:

- Metal pivot insuring constant pressure in rugged applications over long periods.
- One-piece phenolic insulator gives 1" nominal creep distance.
- Use of special *Force Indicator Gauge* eliminates need for torque wrenches, inaccurate "flex" gauges, and *guesswork*.
- Various bolt lengths available to accommodate most mounting situations.
- No loose parts to complicate assembly.
- Stiffening *brace* to reinforce heat sink *available upon request*.
- *Single-side cooling terminal available upon request*.
- Positive, non-binding swivel action.

