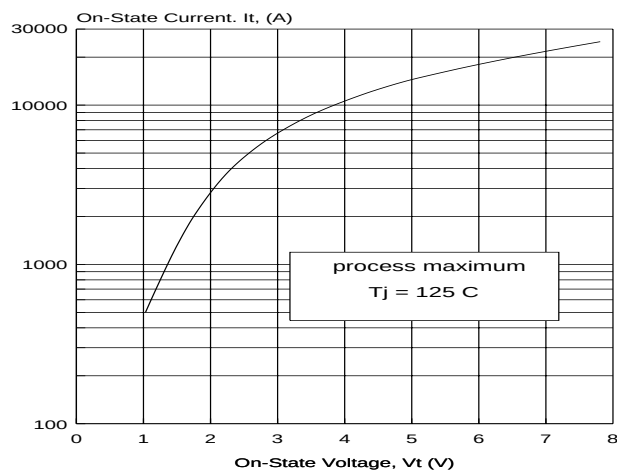


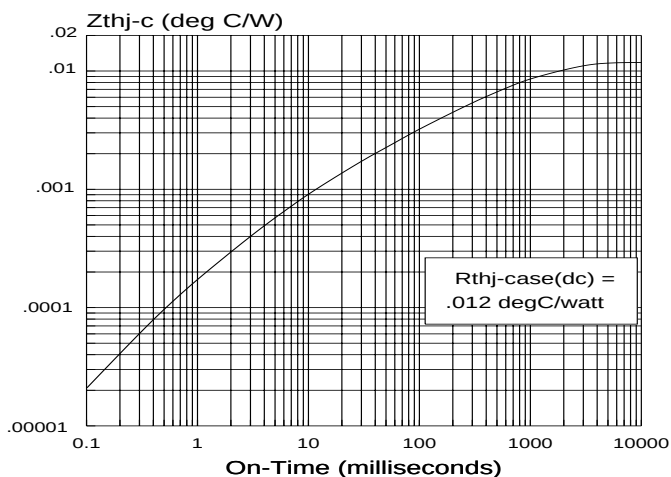
Type C771 reverse blocking thyristor is suitable for inverter applications. The silicon junction is manufactured by the proven multi-diffusion process and utilizes the exclusive involute gate structure. It is supplied in an industry accepted disc-type package, ready to mount using commercially available heat dissipators and mechanical clamping hardware.

### ON-STATE CHARACTERISTIC



### THERMAL IMPEDANCE

THERMAL IMPEDANCE vs. ON-TIME



| MODEL  | $V_{DRM} / V_{RRM}$<br>0 to $+125^\circ\text{C}$ | @<br>$-40^\circ\text{C}$ |
|--------|--------------------------------------------------|--------------------------|
|        | volts                                            |                          |
| C771LS | 2800                                             | 2700                     |
| C771LM | 2700                                             | 2600                     |
| C771LE | 2600                                             | 2500                     |
| C771LD | 2500                                             | 2400                     |
| C771LC | 2400                                             | 2300                     |
| C771LB | 2300                                             | 2200                     |
| C771LA | 2200                                             | 2100                     |
| C771L  | 2100                                             | 2000                     |

#### Gate Drive Requirements:

20 - 30V / 10 ohms / 0.5us risetime

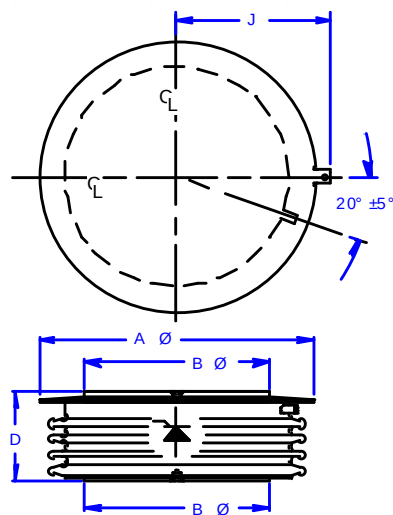
10 - 20 us minimum duration

#### External Clamping Force

7000 - 9000 lbs.

31.1 - 40.0 kN

### MECHANICAL OUTLINE



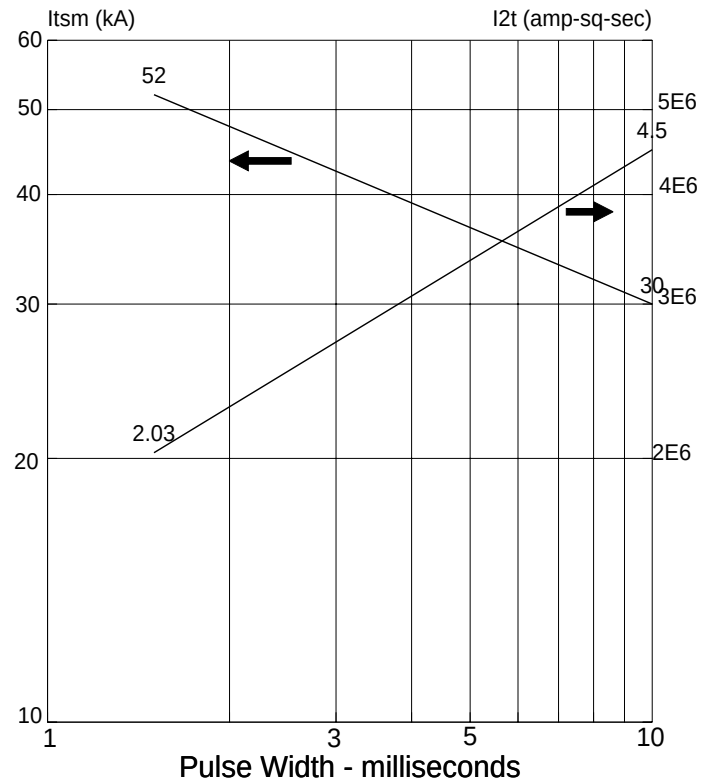
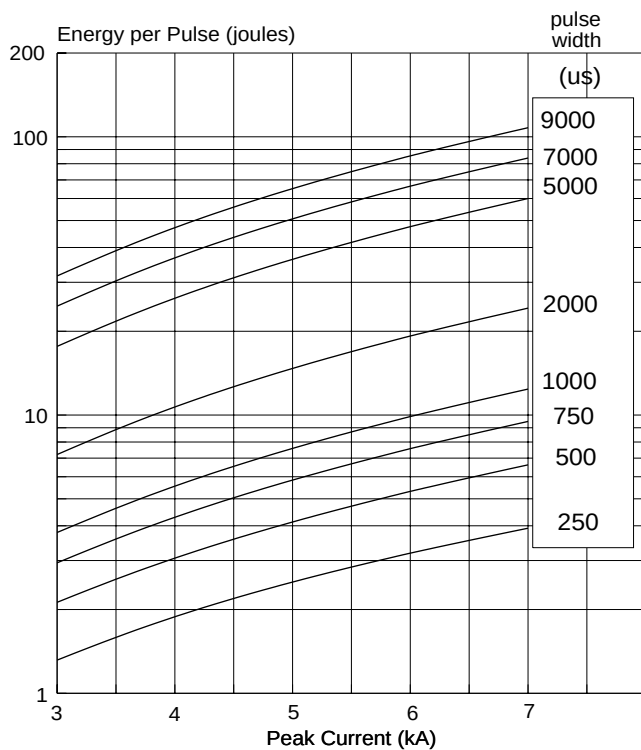
$A \varnothing = 4.35 \text{ in (110.5 mm)}$

$B \varnothing = 2.88 \text{ in (73.2 mm)}$

$D = 1.45 \text{ in (36.8 mm)}$

## LIMITING CHARACTERISTICS

| PARAMETER                                    | SYMBOL                          | TEST CONDITIONS                                                                                                                | LIMIT             | UNITS |
|----------------------------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-------------------|-------|
| Repetitive peak off-state & reverse voltage  | $V_{\text{DRM}}/V_{\text{RRM}}$ | $T_J = -40$<br>to $+125^\circ\text{C}$                                                                                         | up to<br>2800V    | volts |
| Off-state & reverse current                  | $I_{\text{DM}}/I_{\text{RM}}$   | $T_J = 125^\circ\text{C}$<br>@ $V_{\text{DRM}}/V_{\text{RRM}}$ code LE<br>@ $80\% V_{\text{DRM}}/V_{\text{RRM}}$ codes LM & LS | 150               | ma    |
| Peak half cycle non-repetitive surge current | $I_{\text{TSM}}$                | 60Hz (8.3ms)<br>50Hz (10ms)                                                                                                    | 32.5<br>30        | kA)   |
| On-state voltage                             | $V_{\text{TM}}$                 | $I_T = 2000\text{A}$<br>$t_p = 8.3\text{ms}$<br>$T_J = 125^\circ\text{C}$                                                      | 1.74              | volts |
| Critical rate of rise of on-state current    | $di/dt_{\text{rep}}$            | $V_D = 60\%V_{\text{DRM}}$<br>60Hz $T_J = 125^\circ\text{C}$<br>see gate drive                                                 | 300               | A/us  |
| Critical rate of rise of off-state voltage   | $dv/dt$                         | $V_{\text{DCRIT}} = 80\%V_{\text{DRM}}$<br>$T_J = 125^\circ\text{C}$                                                           | 500               | v/us  |
| Peak recovery current                        | $I_{\text{RM}}$                 | $T_J = 125^\circ\text{C}$<br>@ 10A/us<br>@ 50A/us<br>@ 100 A/us                                                                | 130<br>450<br>750 | A     |
| Circuit commutated turn-off time             | $t_Q$                           | 400V/us to $80\% V_{\text{DRM}}$<br>$V_r = > 50\text{V}$                                                                       | 100               | us    |

Non-Repetitive Half-Cycle  
Peak Surge Current &  $I_2t$ ON-STATE ENERGY  
Half Sine PulsesON-STATE ENERGY  
Trapezoidal Wave  
 $di/dt = 100\text{ A/us}$ 