

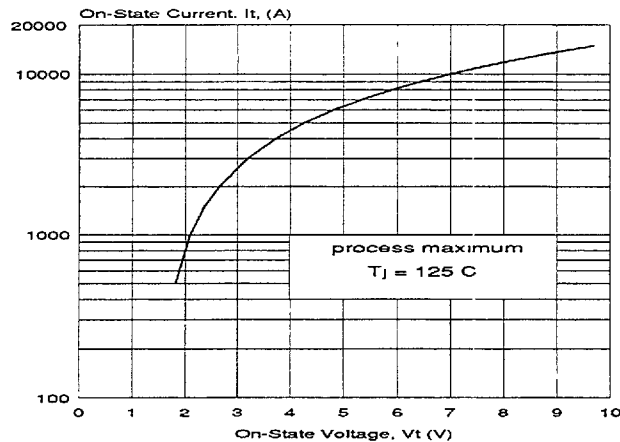
INVERTER THYRISTOR

C714

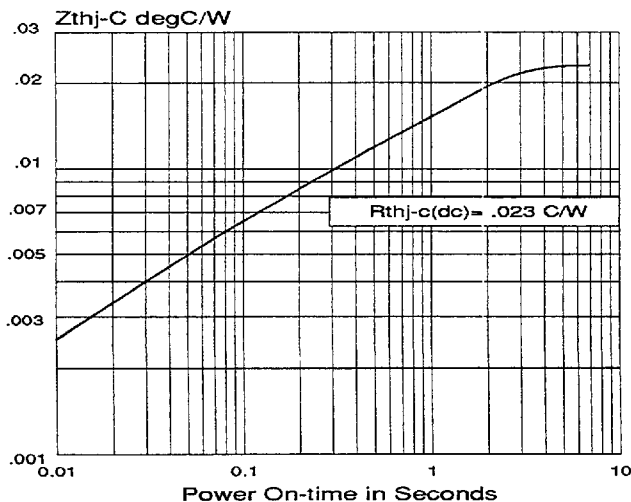
53mm / 2100V / 40us

Type C714 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



MODEL	V_{DRM} / V_{RRM} -40 to +125°C
C714LA	2100 Volts
C714L	2000
C714PT	1900
C714PN	1800
C714PS	1700

Gate Drive Requirements:

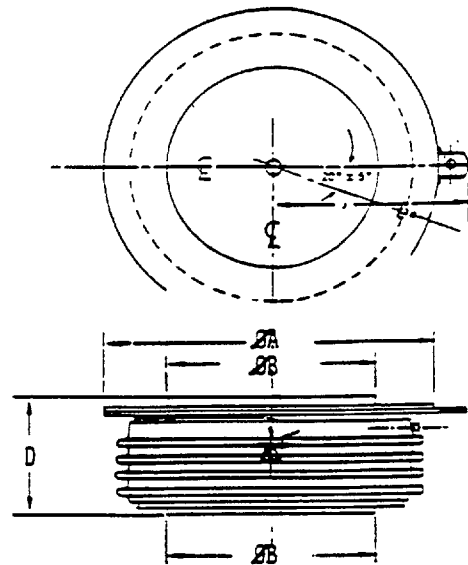
20 - 30V / 10 ohms / 0.5us risetime

10 - 20 us minimum duration

External Clamping Force

3500 - 4200 lbs.

15.6 - 18.7 kN



MAXIMUM DIMENSIONS

$\phi A = 2.96$ in (75.18 mm)

$\phi B = 1.900$ in (48.26 mm)

$D = 1.07$ in (27.18 mm)

SILICON POWER CORPORATION
175 GREAT VALLEY PKWY., MALVERN, PA 19355
USA

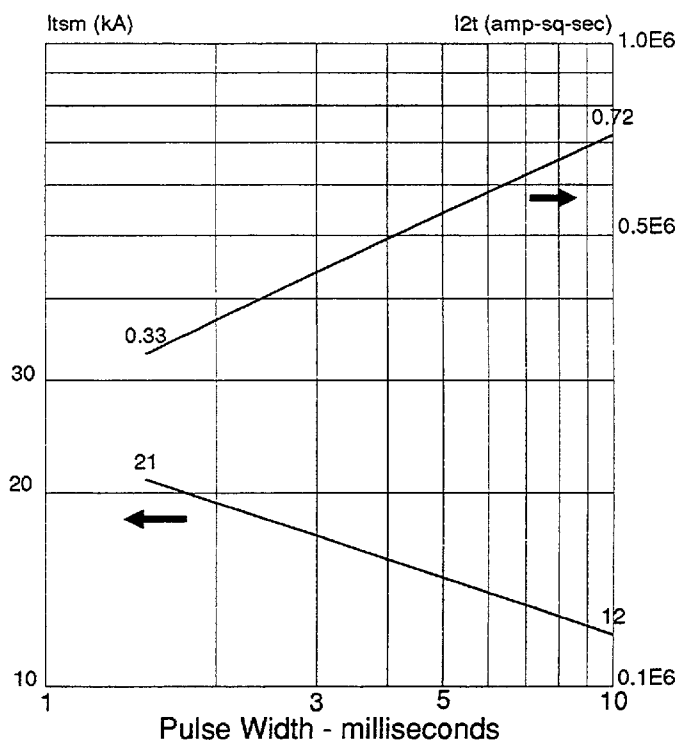
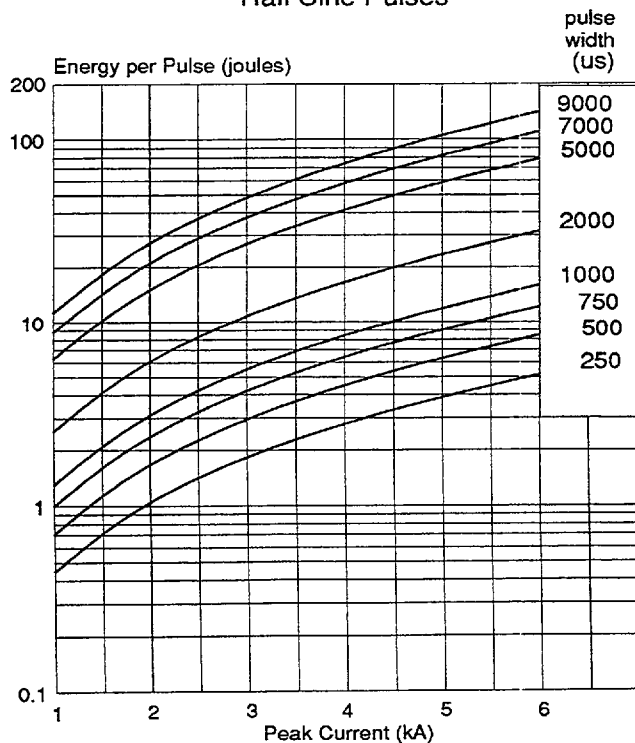
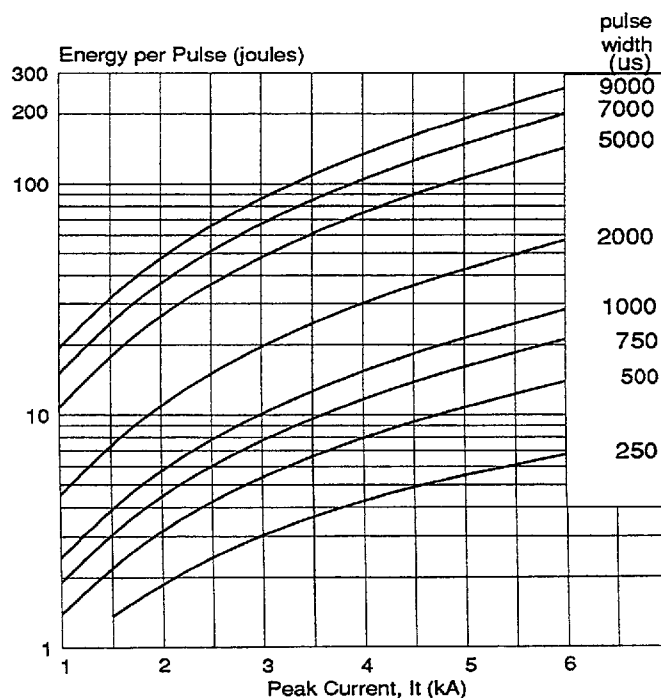
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LIMITING CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	LIMIT	UNITS
Repetitive peak off-state & reverse voltage	V_{DRM}/V_{RRM}	$T_J = -40$ to $+125^\circ\text{C}$	up to 2100V	volts
Off-state & reverse current	I_{DRM}/I_{RRM}	$T_J = 125^\circ\text{C}$	60	ma
Peak half cycle non-repetitive surge current	I_{TSM}	60Hz (8.3ms) 50Hz (10ms)	13 12	kA)
On-state voltage	V_{TM}	$I_T = 1000\text{A}$ $t_p = 8.3\text{ms}$ $T_J = 125^\circ\text{C}$	2.10	volts
Critical rate of rise of on-state current	di/dt_{rep}	$V_D = 1500\text{V}$ 60Hz $T_J = 125^\circ\text{C}$ see gate drive	300	A/us
Critical rate of rise of off-state voltage	dv/dt	$V_{DCCRIT} = 80\%V_{DRM}$ $T_J = 125^\circ\text{C}$	500	v/us
Peak recovery current	I_{RM}	$T_J = 125^\circ\text{C}$ @ 10A/us @ 50A/us @ 100 A/us	56 220 350	A
Circuit commutated turn-off time	t_Q	400V/us to 80% V_{DRM} $V_r = > 50\text{V}$ $V_r = 2\text{V}$	40 45	us

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

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