INTERNATIONAL IRI

INVERTER GRADE THYRISTOR

C712SD

FEATURES

- Double Side Cooling
- High Surge Capability
- High Mean Current
- Fatigue Free



TYPICAL APPLICATIONS

- High Power Drives
- High Voltage Power Supplies
- DC Motor Control
- Furnace

TECHNICAL DATA

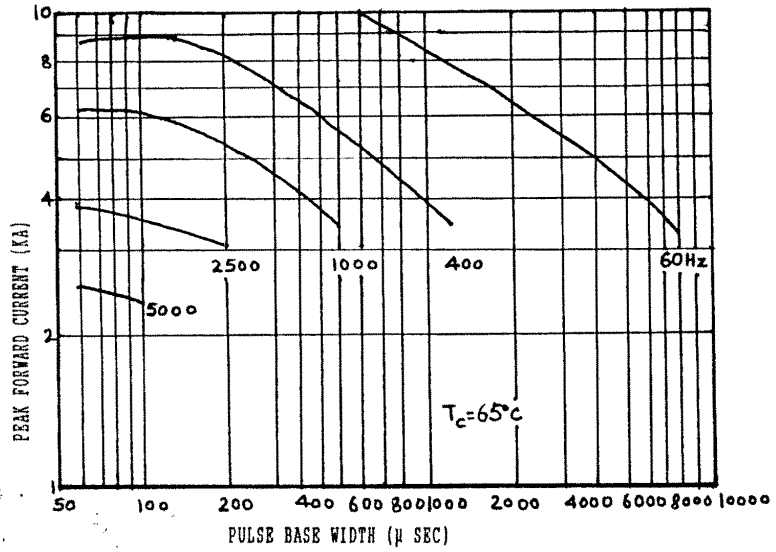
DEVICE TYPE	V_{DRM}/V_{RRM} (V)	V_{RSM} (V)
C712SD1818	1800	1900
C712SD2121	2100	2200

Symbol	Conditions	Values
$I_{T(AV)}$	50 Hz Half wave resistive load T_C = 80 ˚C	1080 A
I_{RMS}	RMS Value	1700 A
$R_{th(i-h)}$	Thermal resistance junction to heat sink	0.028 ˚C/W
I^2T	Fusing at max T_{VJ} 10 mS half sine	1620000 A^2s
I_{TSM}	Surge current at max. T_{VJ} & 50% V_{RRM} 10ms	18.0 KA
di/dt	Rate of rise of on state current	800 A/µS
dv/dt	Rate of rise of on state voltage	*200 V/µS
I_{RRM}/I_{DRM}	Tvj = 125 ˚C	60 mA max
T_{VJ}	Vertual junction temperature	125 ˚C
T_{STG}	Storage temperature range	-40 to + 125 ˚C
V_{TM}	Tvj = 25 ˚C; I_{TM} = 1000 A	1.45 V max
Tq	Turn off time I_T = 1000A, V_R = 50V, 80% V_{DRM} reapplied, dv/dt = 400 V/µS	50 µS
I_{GT}	Gate trigger voltage T_{VJ} = 25 ˚C	350 mA
V_{GT}	Gate trigger voltage T_{VJ} = 25 ˚C	3.0 V
Mounting Force		18-20 KN
Weight	Approx.	500 g
Package Outline		D

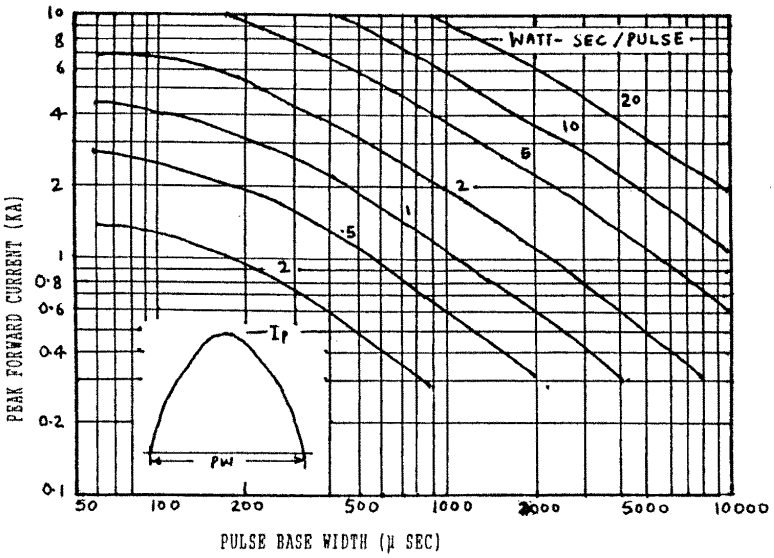
* Higher dv/dt selection available.

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SINUSOIDAL CURRENT WAVEFORMS

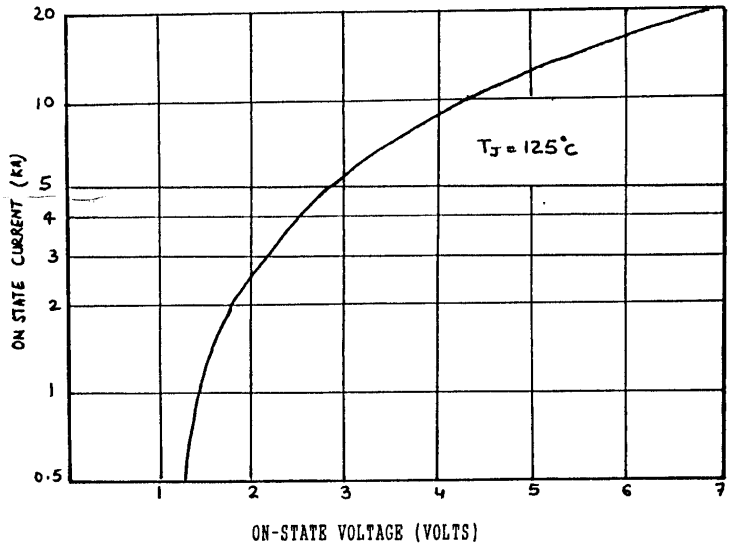


MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT
Vs. PULSE WIDTH (T_C = 65°C)

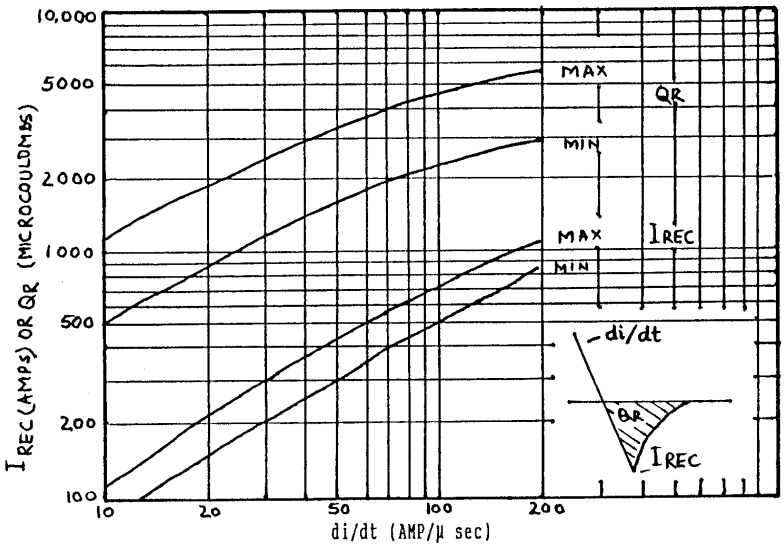


ENERGY PER PULSE FOR SINUSOIDAL PULSES

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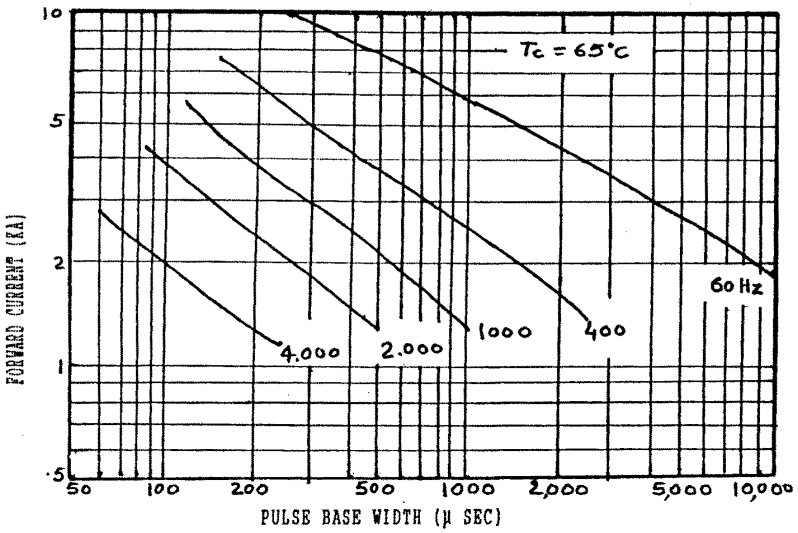
FORWARD CONDUCTION CHARACTERISTIC
ON STATE



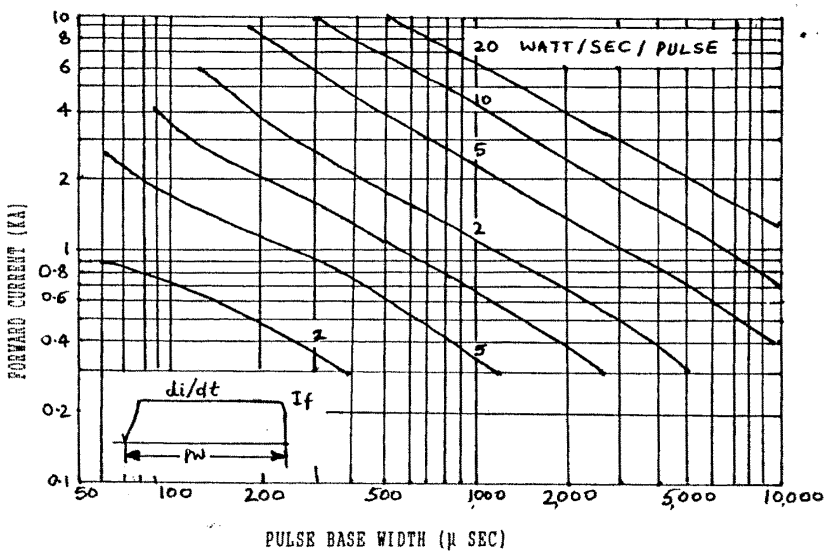
RECOVERED CHARGE (125°C)

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TRAPEZOIDAL CURRENT WAVEFORMS



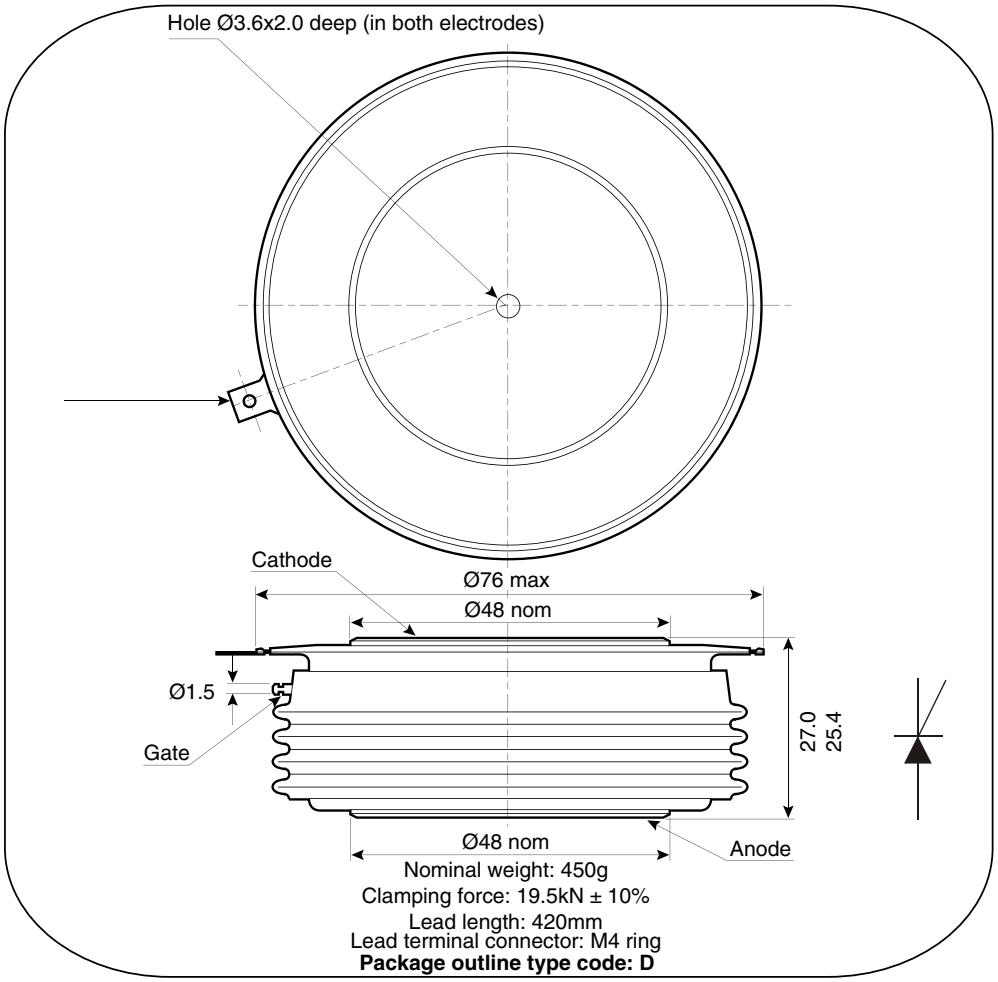
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT FOR TRAPEZOIDAL CURRENT WAVEFORMS FOR (T_C = 65°C) (di/dt = 100A/μs)



ENERGY PER PULSE FOR TRAPEZOIDAL CURRENT WAVEFORMS

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PACKAGE OUTLINE



All dimensions are in mm.

Insel Rectifiers (India) Pvt. Ltd.

(An ISO 9001:2015, ISO 14001:2015 Certified Company)

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