

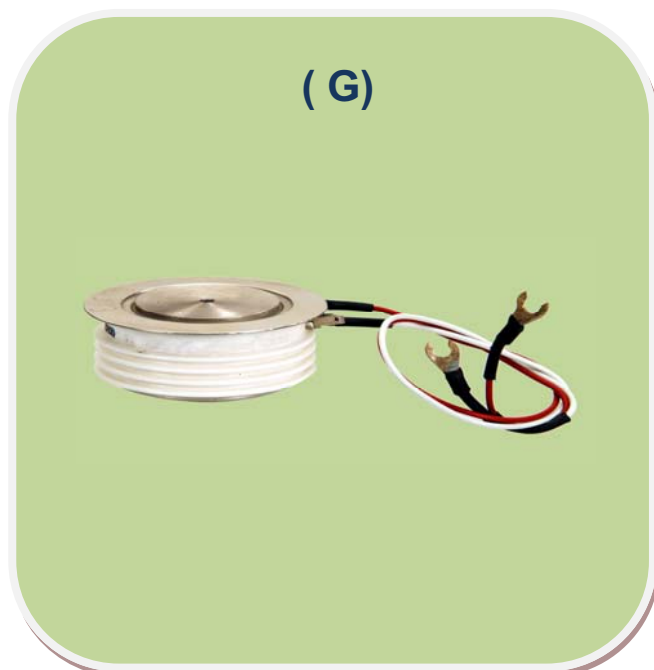
FEATURES

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

TYPICAL APPLICATIONS

- High Power Drives
- High Voltage Power Supplies
- Furnace

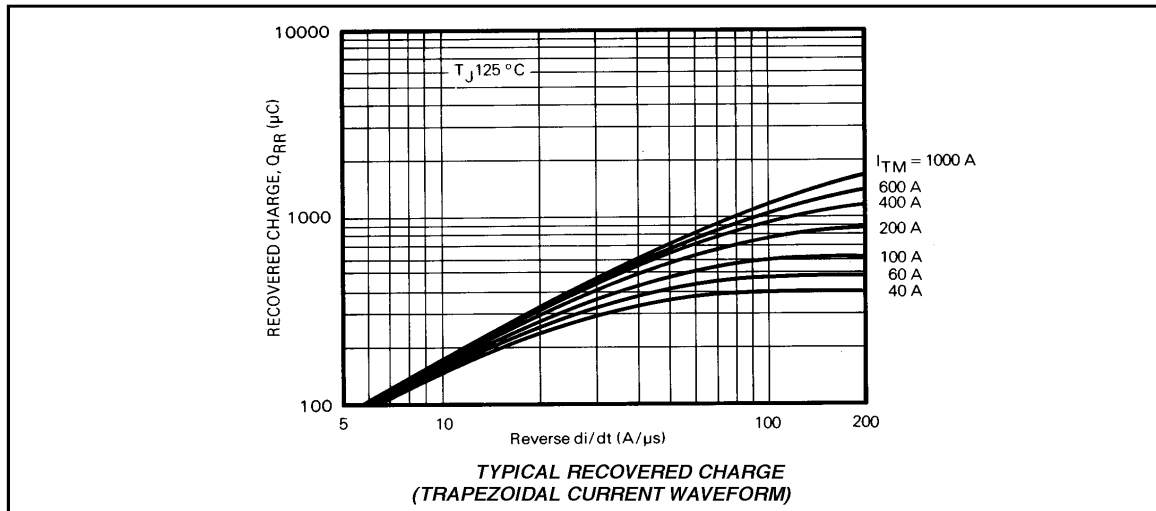
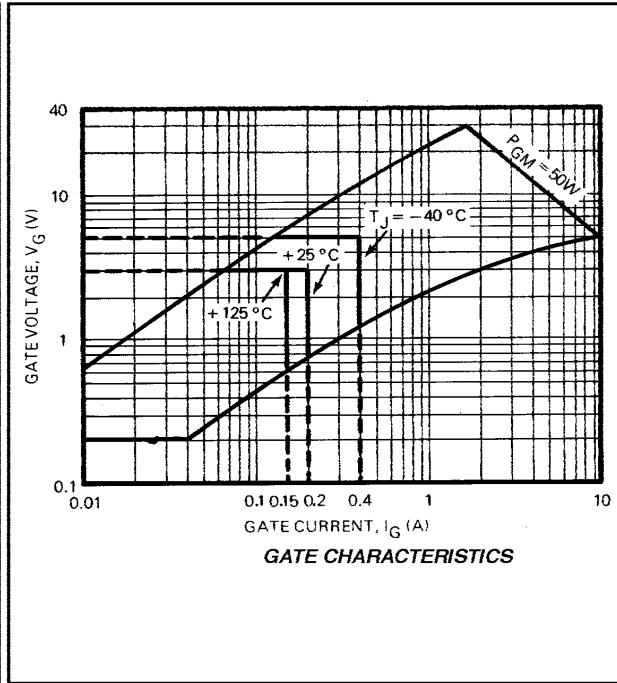
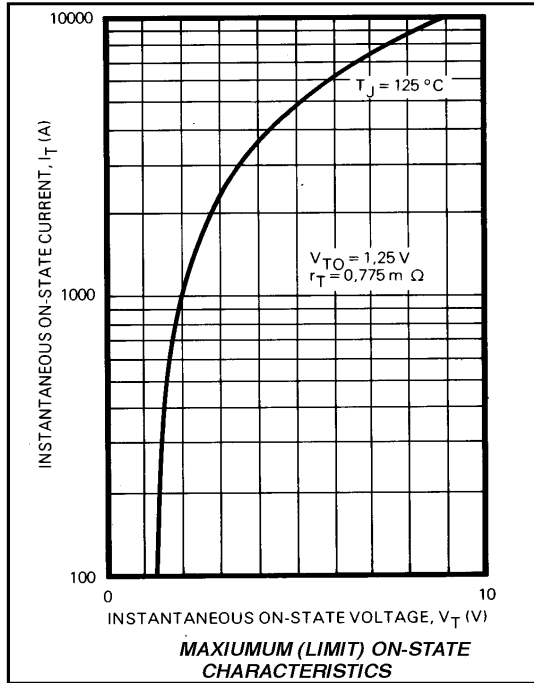
TECHNICAL DATA



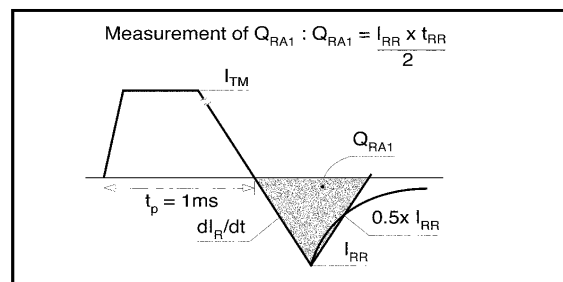
DEVICE TYPE	V _{DRM} /V _{R_{RM}} (V)	V _{RSM} (V)
DCR855SG1212	1200	1300
DCR855SG1414	1400	1500
DCR855SG1616	1600	1700

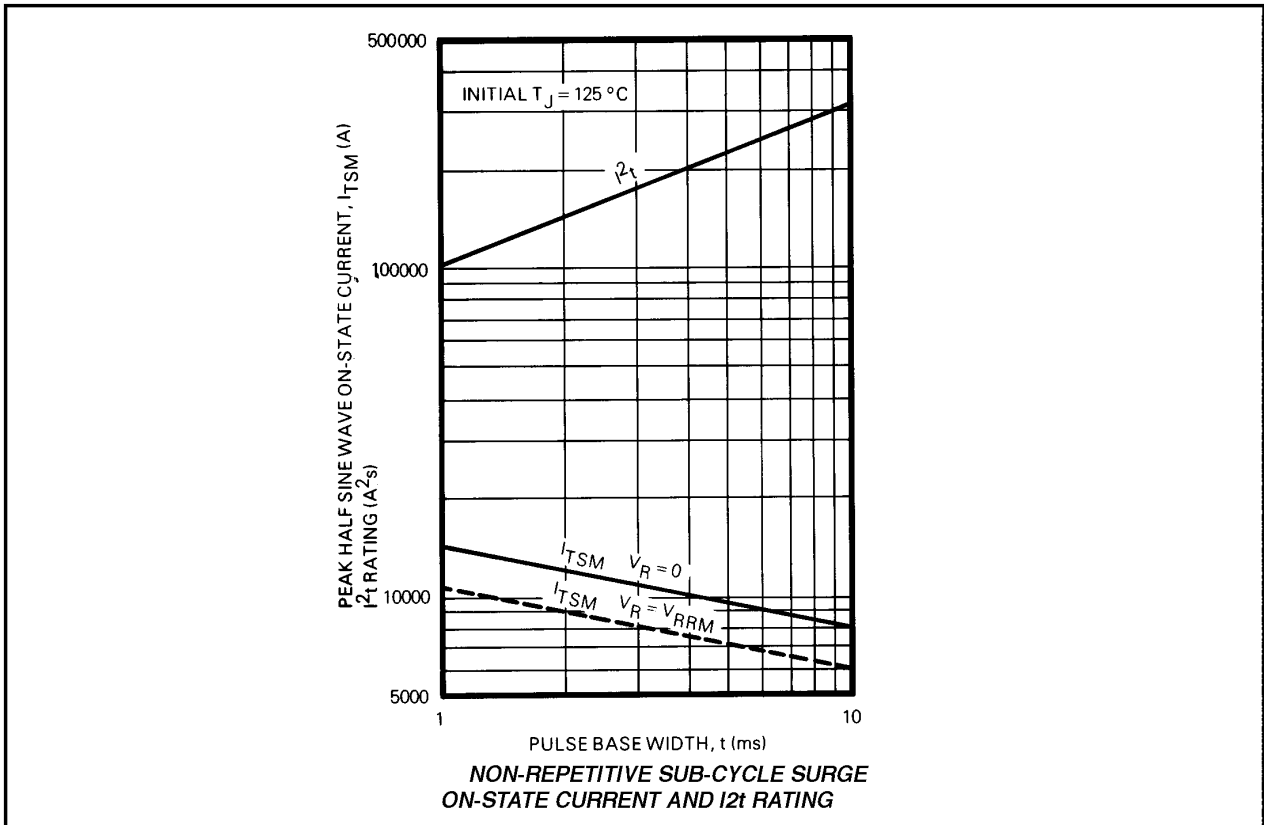
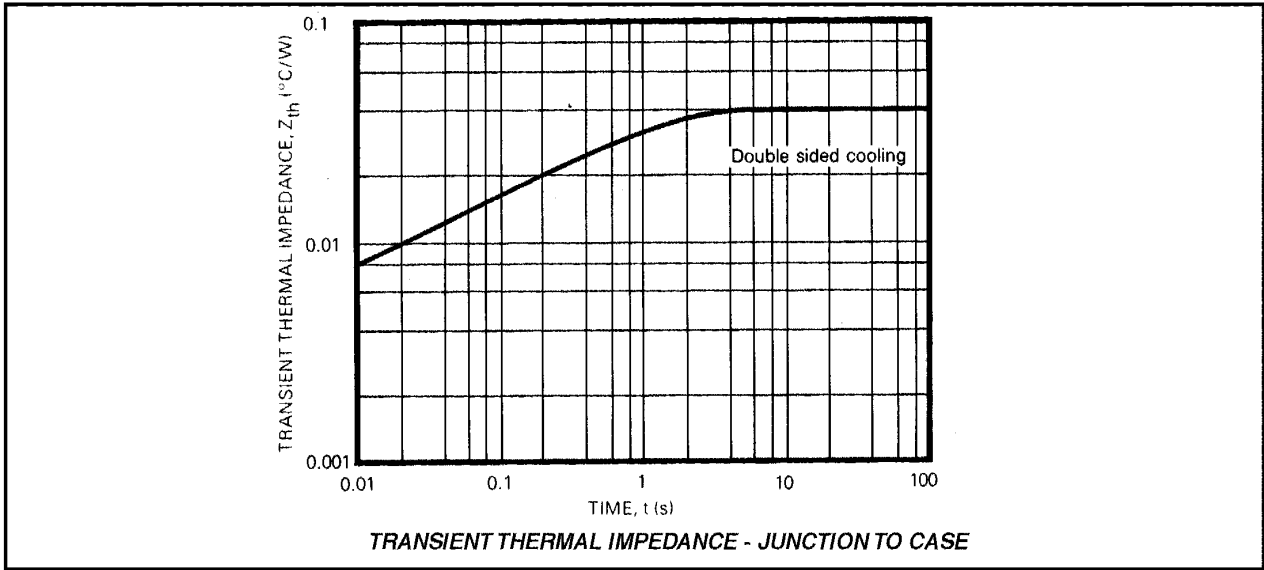
Symbol	Conditions	Values
I _{T(AV)}	Half wave resistive load; T _C = 80 °C	480 A
I _{TSM}	T _{vj} = 125 °C ; 10 ms half sine, V _R = 0	8.0 KA
I ² t	T _{vj} = 125 °C, 10 ms half sine, V _R = 0	320000 A ² s
I _{GT}	T _{vj} = 25 °C; V _{DRM} = 5V	200 mA
V _{GT}	T _{vj} = 25 °C; V _{DRM} = 5V	3.0V
dv/dt	T _{vj} = 125 °C; Voltage = 67 % V _{DRM}	*200V/μs
[di/dt] _{CR}	Repetitive 50 Hz	500 A/μs
	Non-repetitive	800 A/μs
τ _q	T _{vj} = 125 °C; I _T = 250 A; V _R = 50V dv/dt = 20V/μs di/dt = 50 A/μs	40 μs
V _T	T _{vj} = 25 °C; I _T = 2000 A	2.80 V max
V _O	T _{vj} = 125 °C	1.25 V
R _O	T _{vj} = 125 °C	0.77 mΩ
I _{RRM} /I _{DRM}	T _{vj} = 125 °C	60 mA
I _H	V _D = 12V; T _{vj} = 25 °C; Typical value	100 mA
I _L	T _{vj} = 25 °C; Typical value	300 mA
R _{th(j-c)}	dc	0.040 °C/W
R _{th(c-h)}		0.010 °C/W
T _{vj}		+125 °C
T _{stg}		-40....+125 °C
Mounting Force		12.5 - 15 KN
Package Outline		G

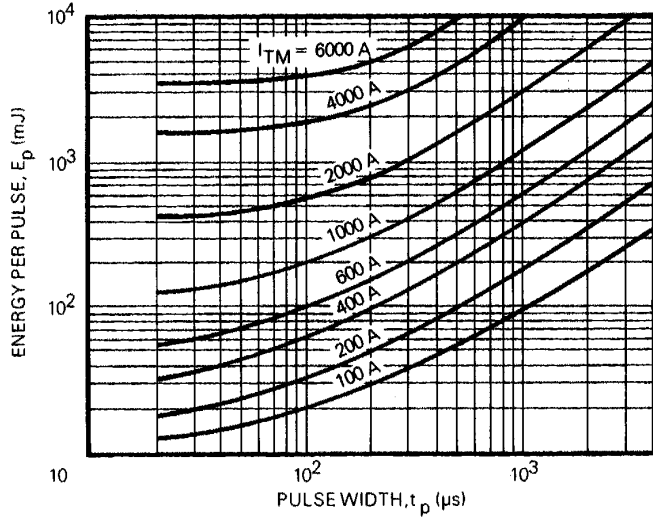
CURVES



MEASUREMENT OF RECOVERED CHARGE - Q_{RA1}



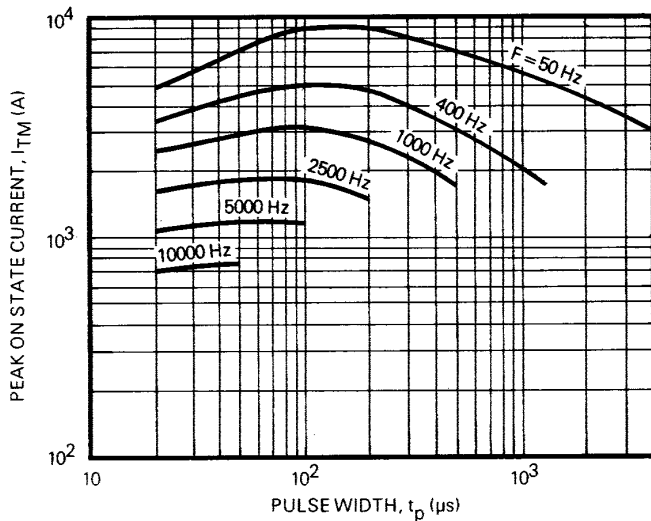
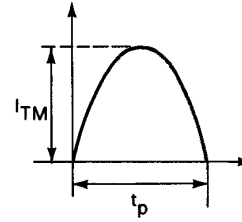




ENERGY PER PULSE FOR SINUSOIDAL PULSES

NOTES:

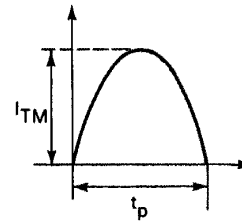
1. $V_D \leq 600V$.
2. $V_R \leq 10V$.
3. R.C Snubber, $C = 0.22\mu F$, $R = 4.7\Omega$

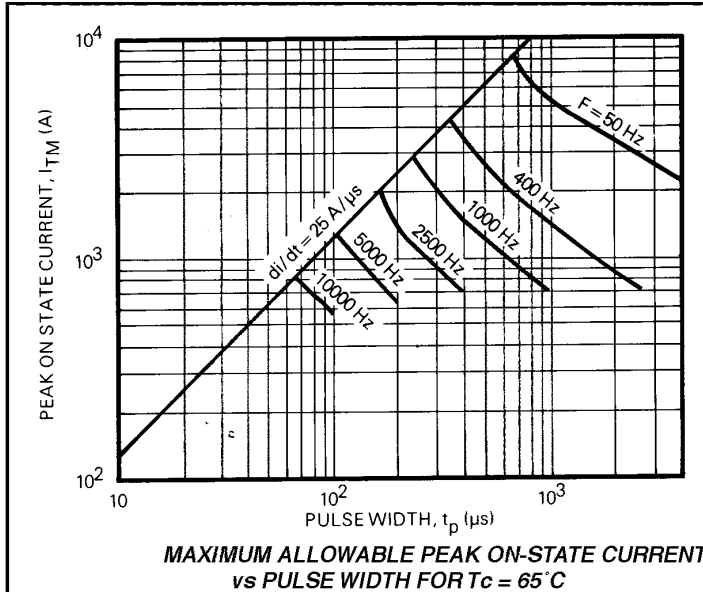


MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR $T_c = 65^\circ C$

NOTES:

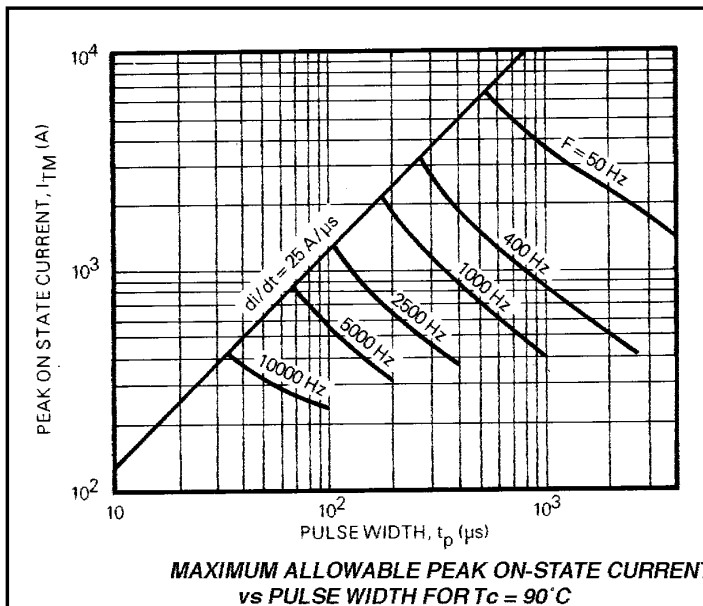
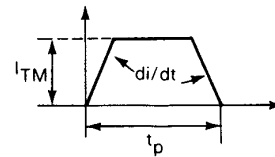
1. $V_D \leq 600V$.
2. $V_R \leq 10V$.
3. R.C Snubber, $C = 0.22\mu F$, $R = 4.7\Omega$





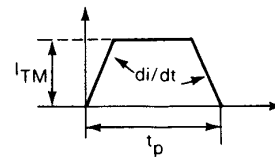
NOTES:

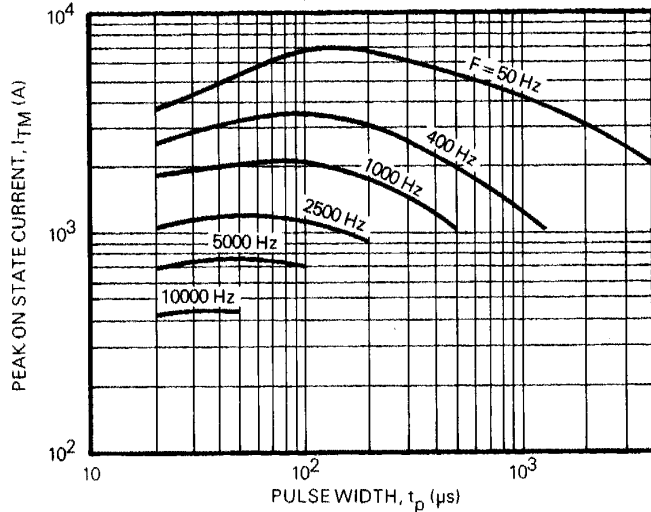
1. $di/dt = 25\text{A}/\mu\text{s}$
2. $V_D \leq 600\text{V}$.
3. $V_R \leq 10\text{V}$.
4. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$



NOTES:

1. $di/dt = 25\text{A}/\mu\text{s}$
2. $V_D \leq 600\text{V}$.
3. $V_R \leq 10\text{V}$.
4. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$

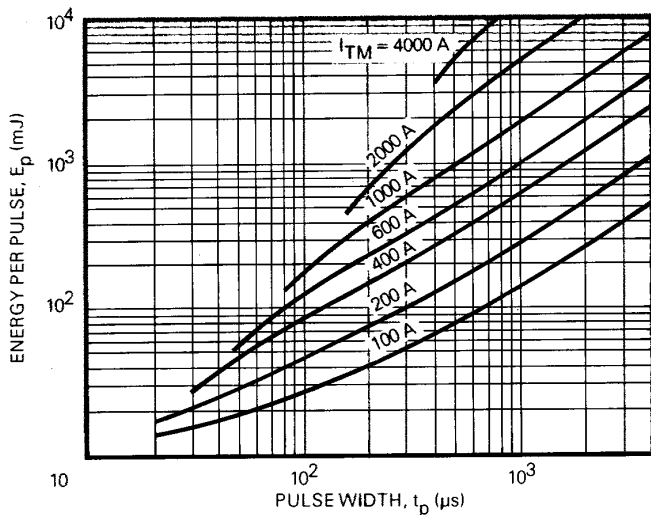
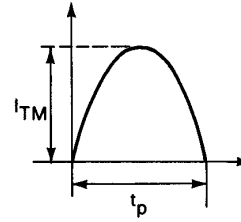




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR $T_c = 90^\circ\text{C}$

NOTES:

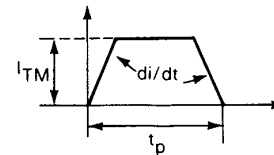
1. $V_D \leq 600\text{V}$.
2. $V_R \leq 10\text{V}$.
3. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$

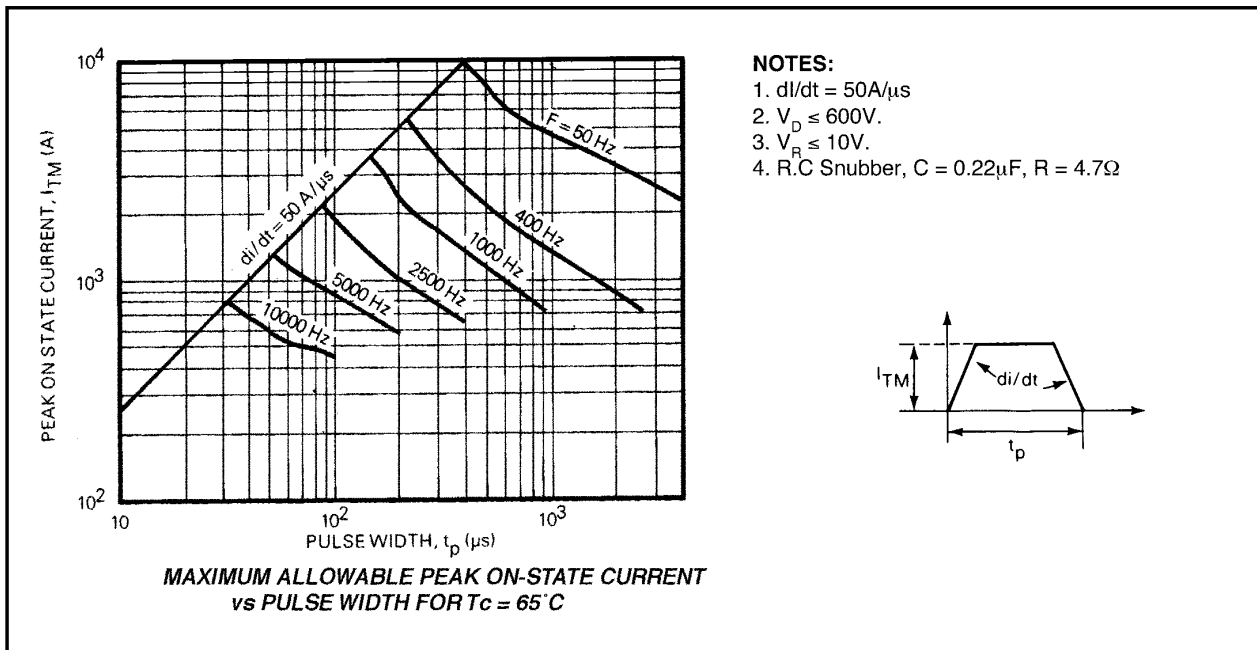
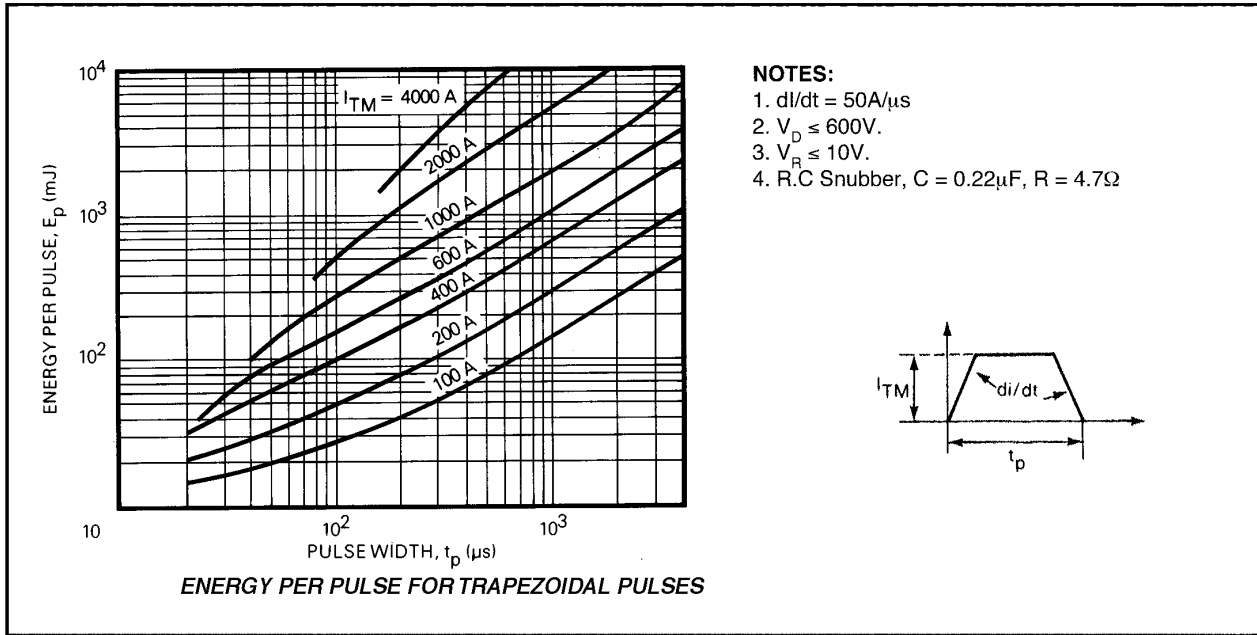


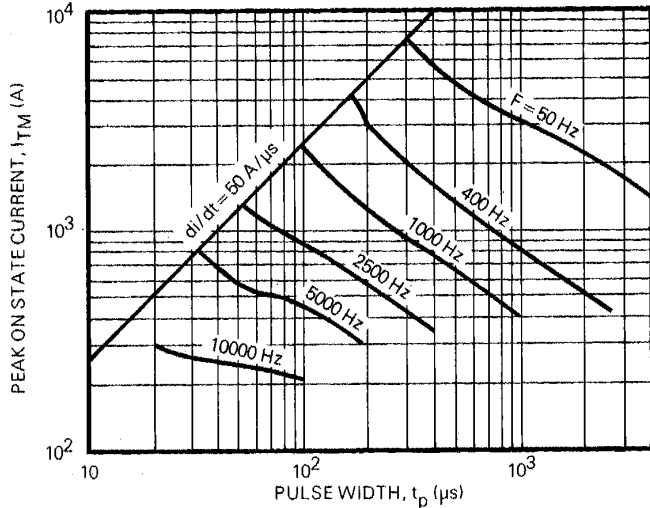
ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

NOTES:

1. $di/dt = 25\text{A}/\mu\text{s}$
2. $V_D \leq 600\text{V}$.
3. $V_R \leq 10\text{V}$.
4. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$



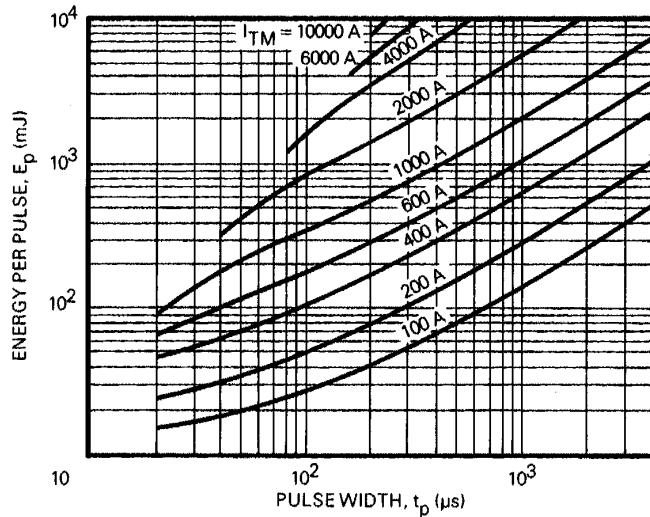
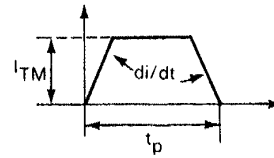




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR $T_c = 90^\circ C$

NOTES:

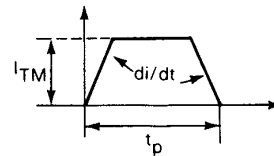
1. $di/dt = 50 \text{ A}/\mu s$
2. $V_D \leq 600 \text{ V}$.
3. $V_R \leq 10 \text{ V}$.
4. R.C Snubber, $C = 0.22 \mu F$, $R = 4.7 \Omega$

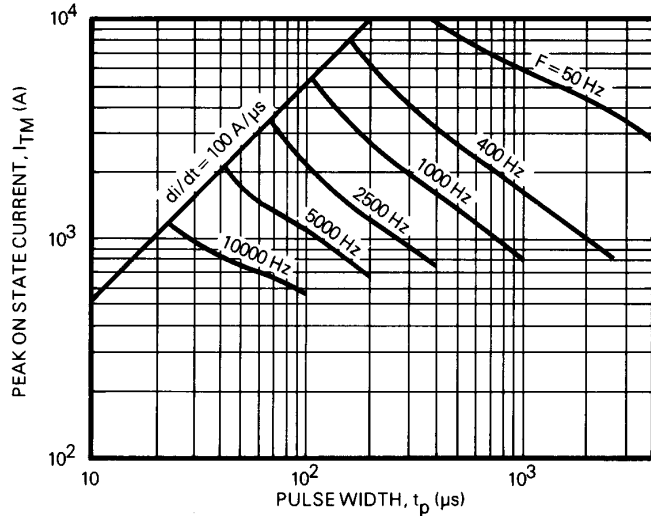


ENERGY PER PULSE FOR TRAPEZOIDAL PULSES

NOTES:

1. $di/dt = 100 \text{ A}/\mu s$
2. $V_D \leq 600 \text{ V}$.
3. $V_R \leq 10 \text{ V}$.
4. R.C Snubber, $C = 0.22 \mu F$, $R = 4.7 \Omega$

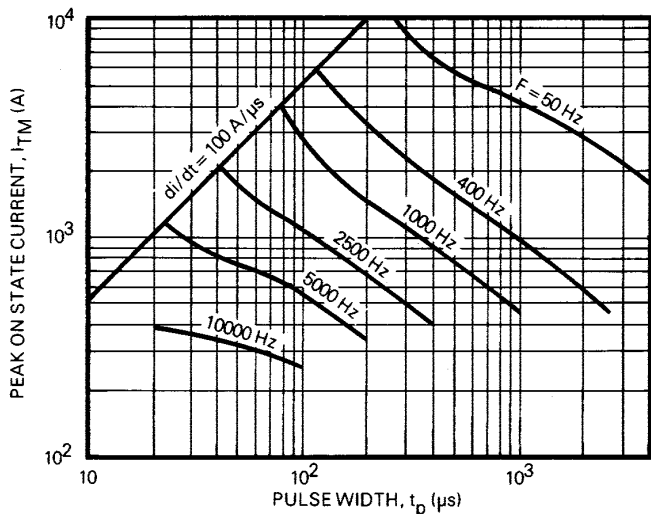
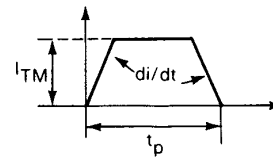




MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR $T_c = 65^\circ\text{C}$

NOTES:

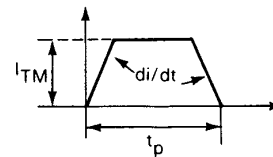
1. $di/dt = 100\text{A}/\mu\text{s}$
2. $V_D \leq 600\text{V}$.
3. $V_R \leq 10\text{V}$.
4. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$



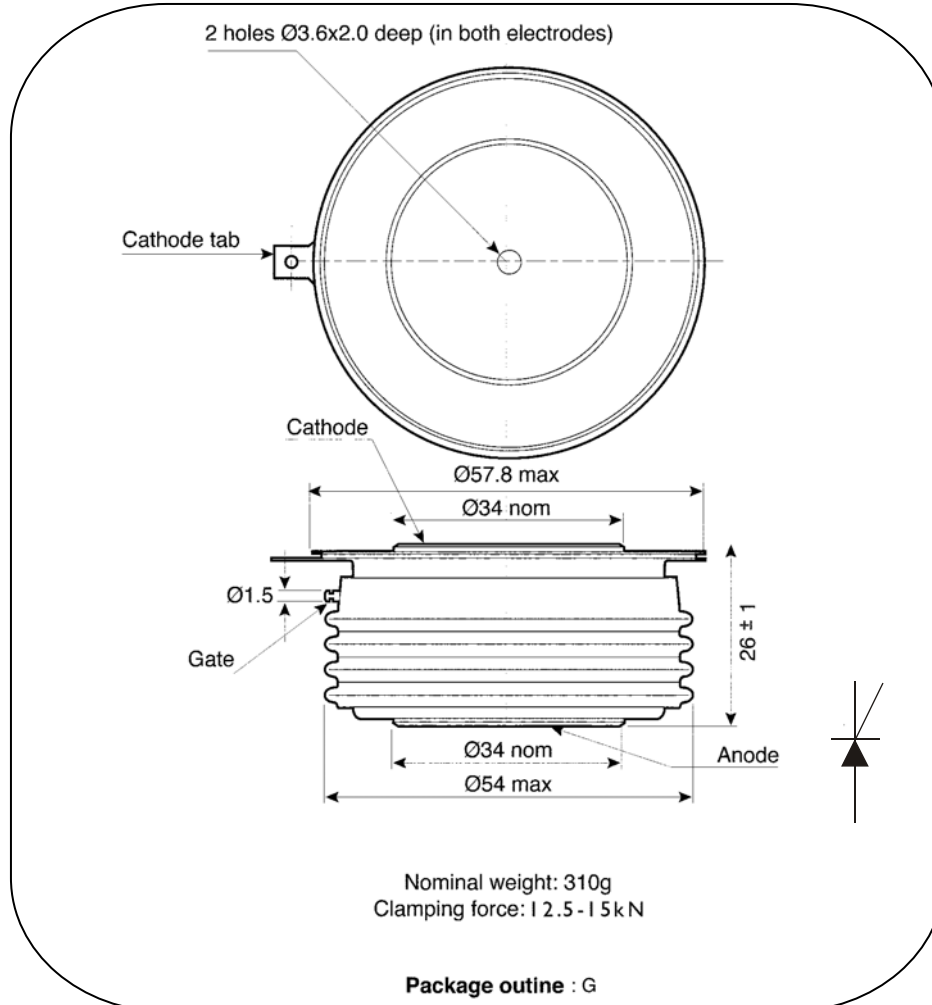
MAXIMUM ALLOWABLE PEAK ON-STATE CURRENT vs PULSE WIDTH FOR $T_c = 90^\circ\text{C}$

NOTES:

1. $di/dt = 100\text{A}/\mu\text{s}$
2. $V_D \leq 600\text{V}$.
3. $V_R \leq 10\text{V}$.
4. R.C Snubber, $C = 0.22\mu\text{F}$, $R = 4.7\Omega$



PACKAGE OUTLINE



All dimensions are in mm.

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

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