Fast Turn-off Thyristor

Features

1. 1450PTH series fast turn-off Thyristors are designed for various power controls
2. Voltage rating up to 2000V

Typical Applications

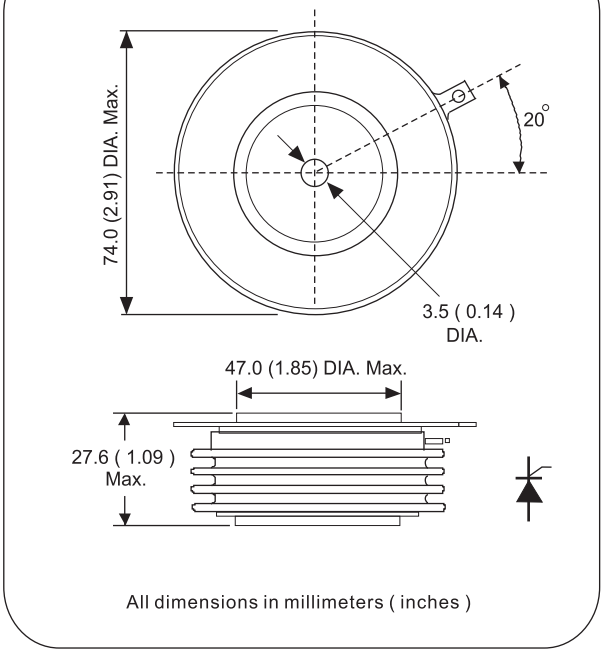
- Inverters
- Motor control
- Inductive heating
- UPS
- Welders

Ordering code

1450	PTH	xx	D	Tq
(1)	(2)	(3)	(4)	(5)

(1) Maximum average on-state current , A
(2) For fast turn-off Thyristor
(3) Voltage code , code x 100 = VRRM / VDRM
(4) Package style : A , B , C , D , E
(5) tq code (10,15,20,25,30.....)

D TYPE

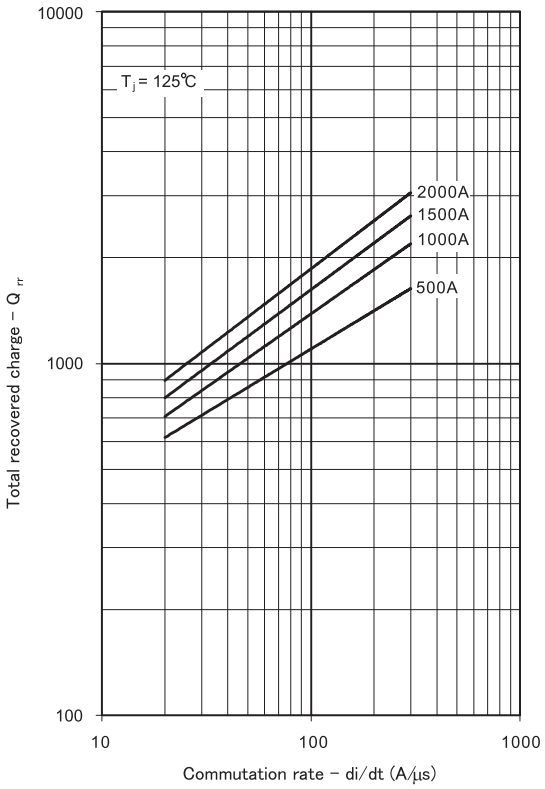


All dimensions in millimeters (inches)

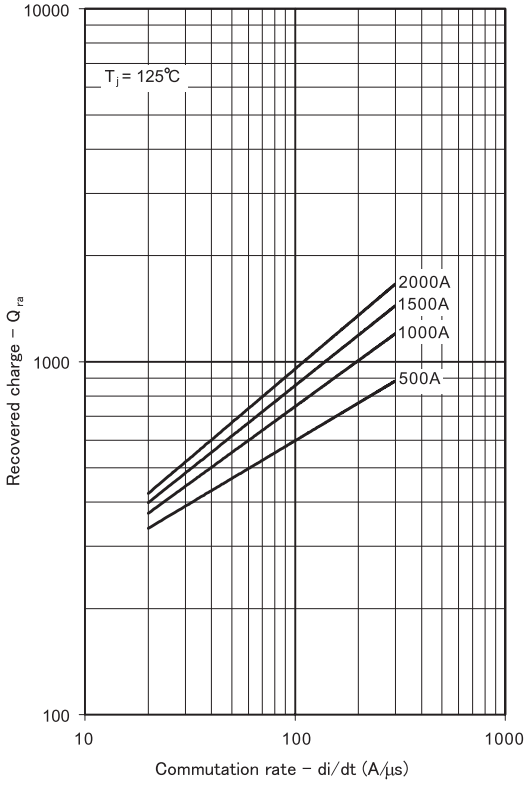
Electrical Characteristics

Symbol	Parameter	Condition	Value			Unit
			MIN.	TYPE	MAX.	
$I_{T(AV)}$	Mean on-state current	Tsink= 55℃			1450	A
V_{RRM} V_{DRM}	Repetitive peak off-state voltage Repetitive peak reverse voltage	V_{DRM} & V_{RRM} t_p=10ms , respectively V_{DsM} & V_{RsM} = V_{DRM} & V_{RRM} + 100V	1400		2000	V
I_{DRM} I_{RRM}	Repetitive peak reverse current	at V_{DRM} at V_{RRM}			150	mA
I_{TSM}	Surge on-state current	10 ms half sine wave V_R = 0.6 V_{RRM}			22000	A
I^2t	For fusing coordination				$1.3x10^6$	A^2s
V_{TM}	Peak on-state voltage	@125℃, I_{TM}=2000A			1.8	V
$d_{V/dt}$	Cirtical rate of rise of off-state voltage				500	V/μs
t_q	Current commutated turn-off time	200V/μs	40		65	μs
$d_{i/dt}$	Cirtical rate of rise of on-state current				60	A/μs
Q_{rr}	Recovered aharge	50% Chord I_T 1000A $d_{iRR/dt}$=-60A/μs		200		μc
Q_{ra}	Recovered aharge, 50% Chord		80		100	μc
I_{GT}	Gate trigger current		30		300	mA
V_{GT}	Gate trigger voltage		1		3.0	V
I_H	Holding current				1000	mA
T_{stg}	Storage temperature range		-40		+150	℃
$R_{th(j-h)}$	Thermal resistance Junction to heatsink	Double side cooled Clamping force 7.0 KN		0.022		K/ W
F_m	Mounting force		15		20	KN
W_t	Weright				425	g

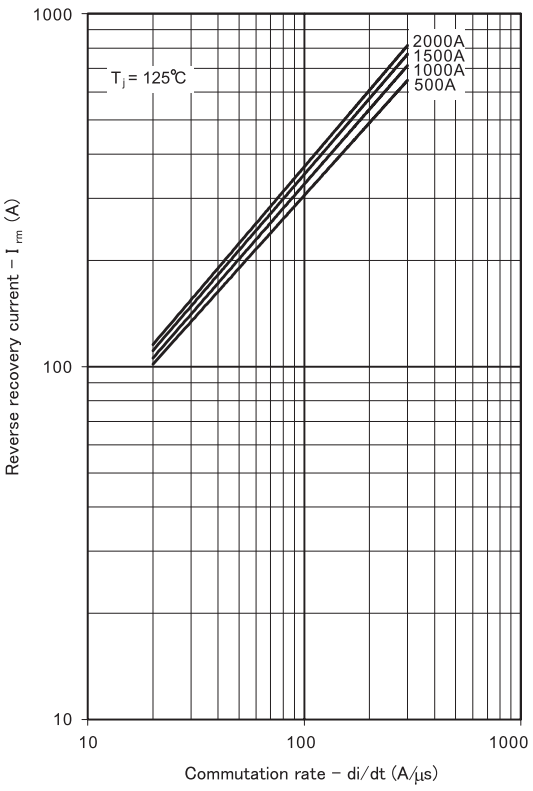
Total recovered charge, Q_{rr}



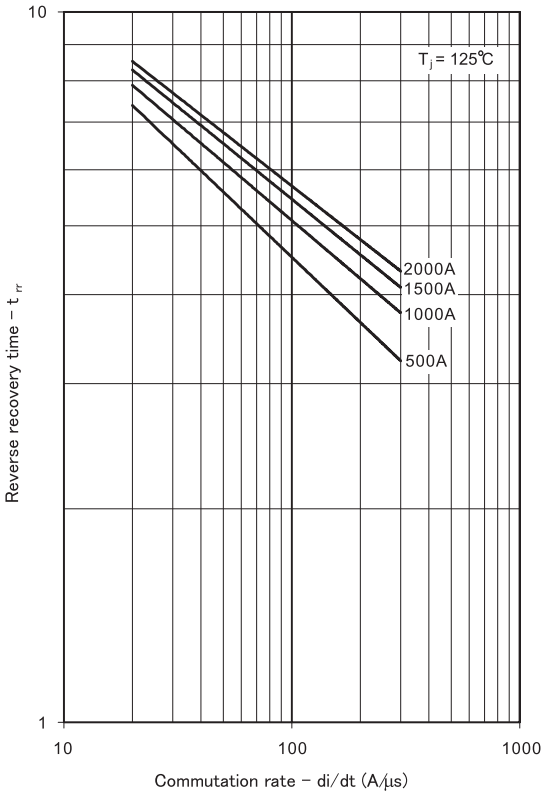
Recovered charge, Q_{ra} (50% chord)



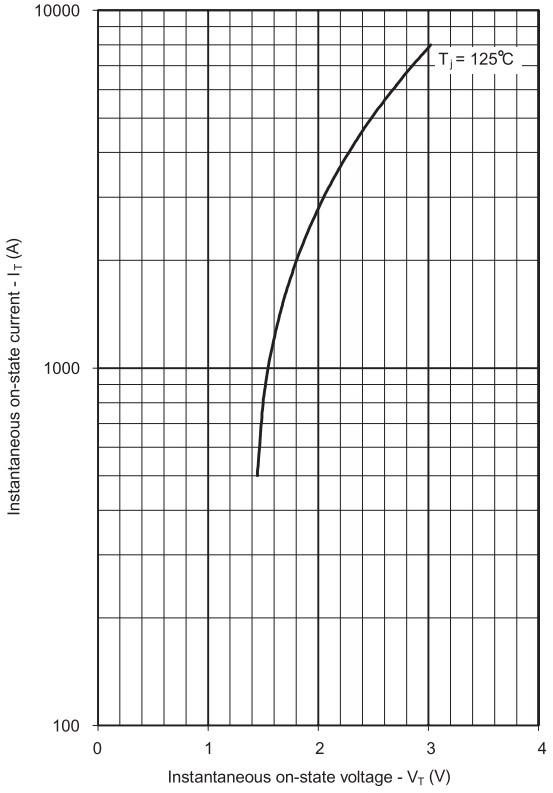
Peak reverse recovery current, I_{rm}



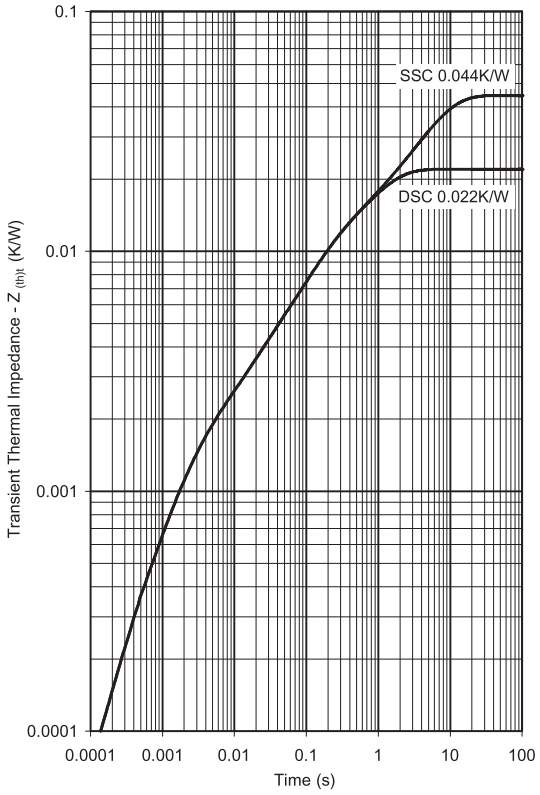
Maximum recovery time, t_{rr} (50% chord)



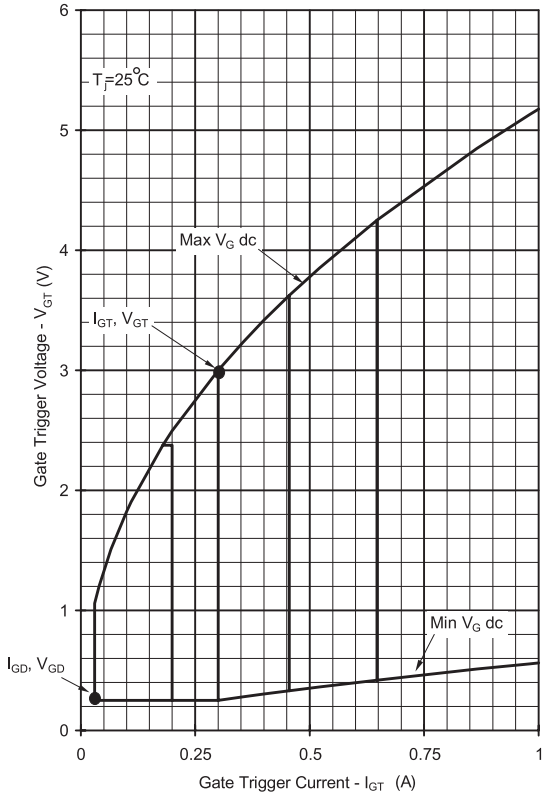
On-state characteristics of Limit device



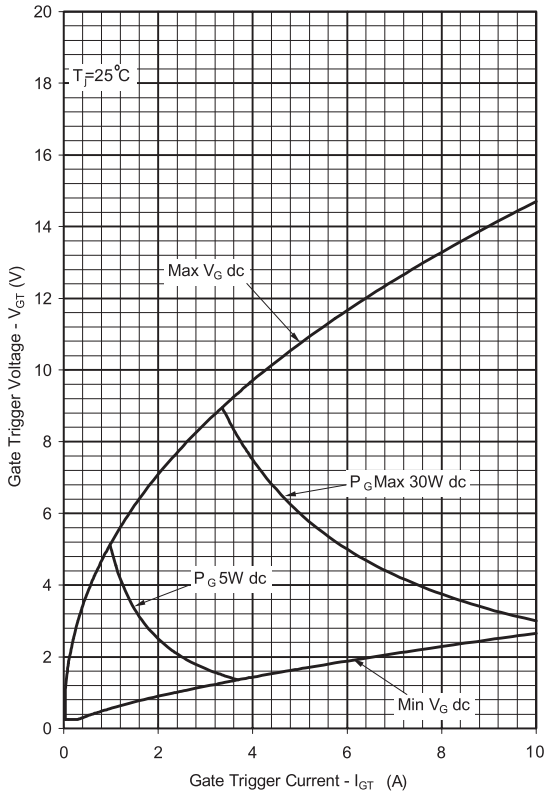
Transient thermal impedance



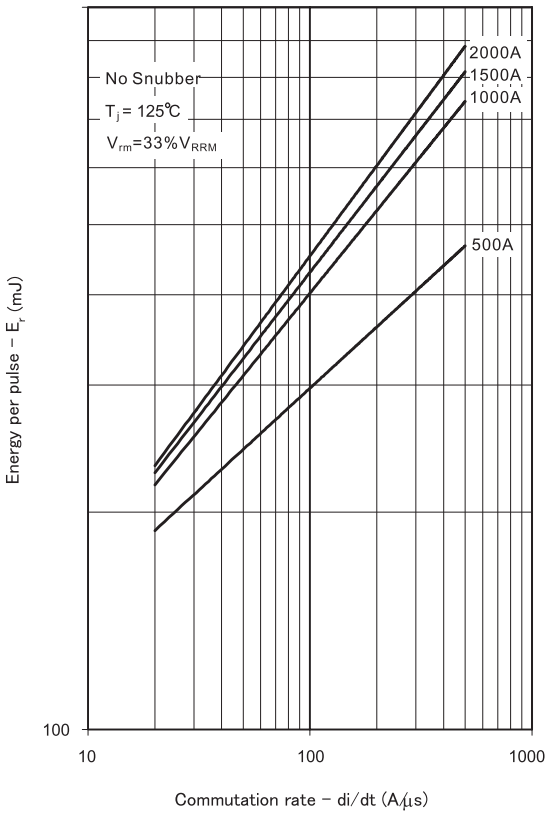
Gate characteristics - Trigger limits



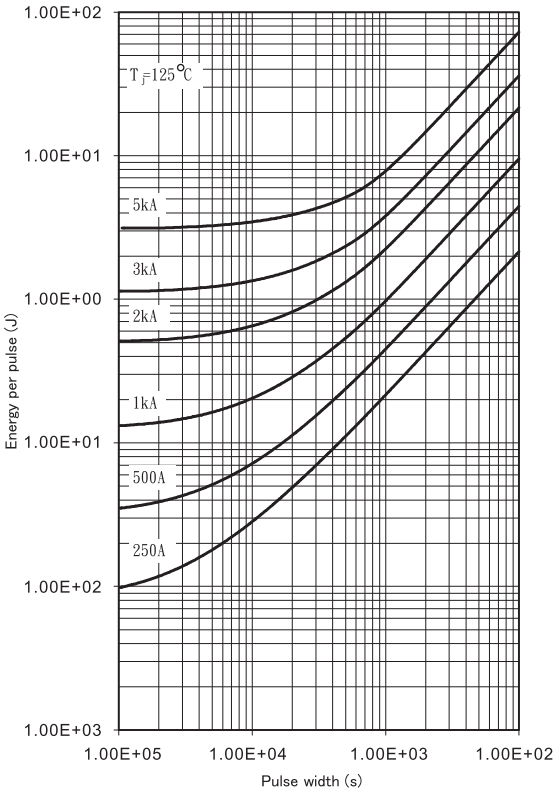
Gate characteristics - Power curves



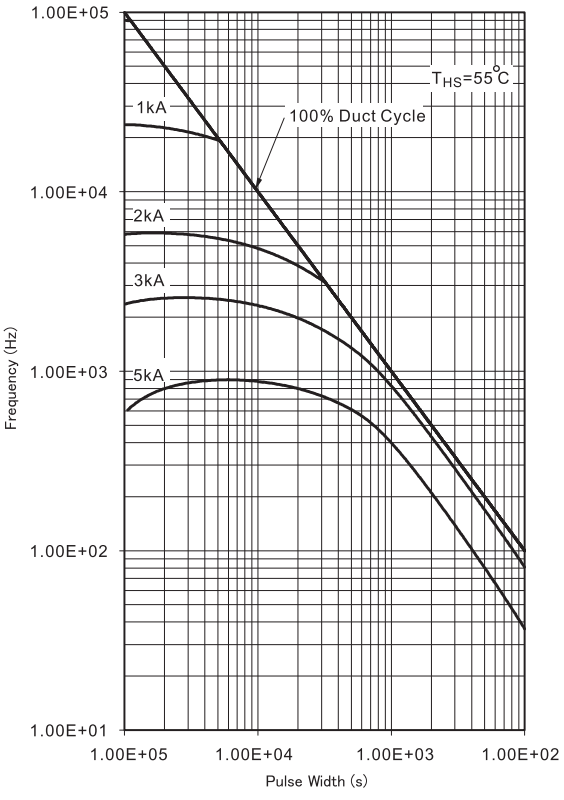
Reverse recovery energy per pulse



Sine wave energy per pulse



Sine wave frequency ratings



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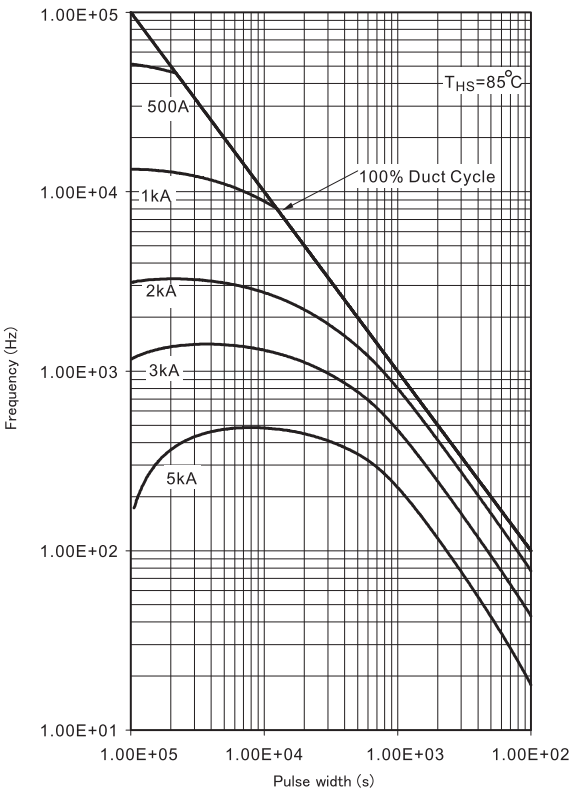

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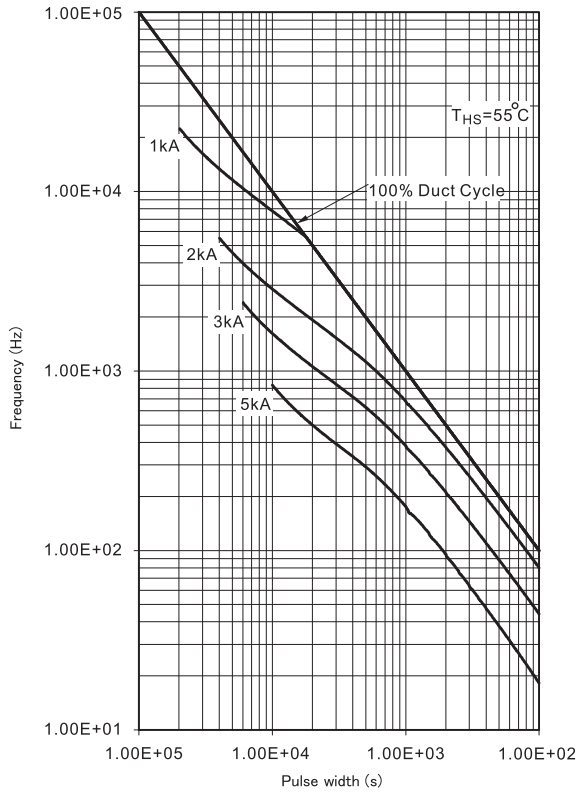

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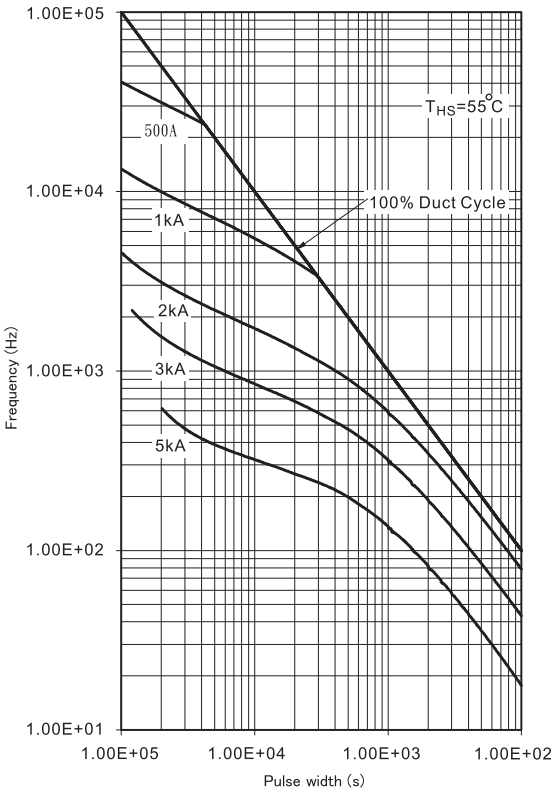

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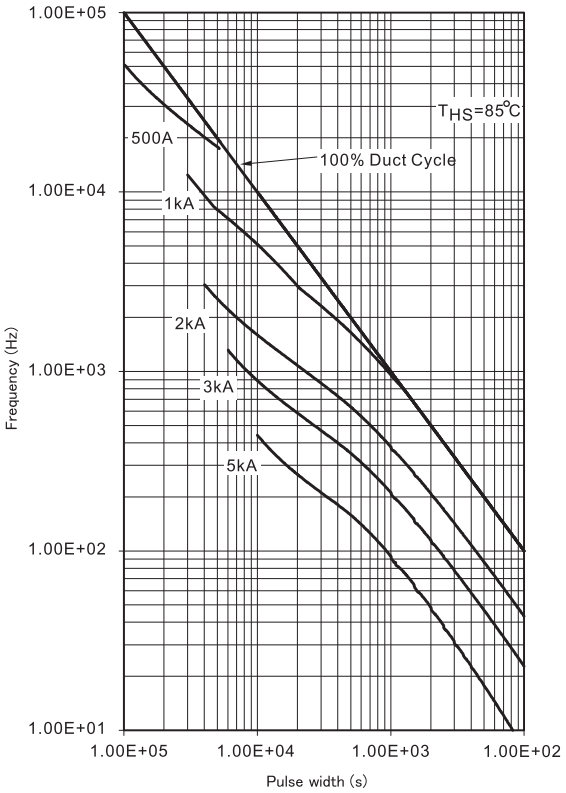

Square wave frequency ratings