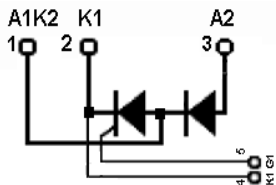


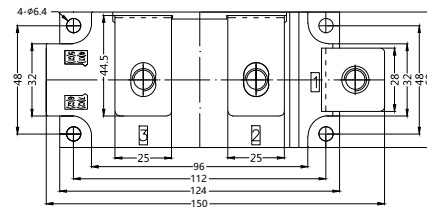
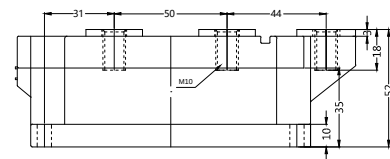
STD500GK22BT

Thyristor-Diode Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STD500GK08BT	900	800
STD500GK12BT	1300	1200
STD500GK16BT	1700	1600
STD500GK18BT	1900	1800
STD500GK20BT	2100	2000
STD500GK22BT	2300	2200
STD500GK24BT	2500	2400
STD500GK26BT	2700	2600

Dimensions in mm



Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} , I_{FRMS} I_{TAVM} , I_{FAVM}	$T_{VJ}=T_{VJM}$ $T_C=85^{\circ}C$; 180° sine		785 500	A
I_{TSM} , I_{FSM}	$T_{VJ}=45^{\circ}C$ $V_R=0$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	16000 18000	A
	$T_{VJ}=T_{VJM}$ $V_R=0$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	13000 14400	
$\int i^2 dt$	$T_{VJ}=45^{\circ}C$ $V_R=0$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	1125000 1062000	A ² s
	$T_{VJ}=T_{VJM}$ $V_R=0$	$t=10ms$ (50Hz), sine $t=8.3ms$ (60Hz), sine	845000 813000	
$(di/dt)_{cr}$	$T_{VJ}=T_{VJM}$ $f=50Hz$, $t_p=200\mu s$ $V_D=2/3V_{DRM}$ $I_G=1A$ $di_G/dt=1A/\mu s$	repetitive, $I_T=960A$	100	A/ μs
		non repetitive, $I_T=I_{TAVM}$	500	
$(dv/dt)_{cr}$	$T_{VJ}=T_{VJM}$; $R_{GK}=\infty$; method 1 (linear voltage rise)	$V_{DR}=2/3V_{DRM}$	1000	V/ μs
P_{GM}	$T_{VJ}=T_{VJM}$ $I_T=I_{TAVM}$	$t_p=30\mu s$ $t_p=500\mu s$	120 60	W
P_{GAV}			20	W
V_{RGM}			10	V
T_{VJ} T_{VJM} T_{stg}			-40...+140 140 -40...+125	$^{\circ}C$
V_{ISOL}	50/60Hz, RMS $I_{ISOL}\leq 1mA$	$t=1min$ $t=1s$	3000 3600	V~
M_d	Mounting torque (M6) Terminal connection torque (M8)		4.5-7/40-60 11-13/97-115	Nm/lb.in.
Weight	Typical		1380	g

STD500GK22BT

Thyristor-Diode Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}	$T_{VJ}=T_{VJM}; V_R=V_{RRM}$	30	mA
V_{TM}	$I_{TM}=1500A; T_{VJ}=25^{\circ}C$	1.85($\leq 1800V$) 2.20($>2000V$)	V
V_{TO}	For power-loss calculations only ($T_{VJ}=T_{VJM}$)	0.8	V
r_T		0.38	m Ω
V_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	2 3	V
I_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	300 400	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.25	V
I_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	10	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=30\mu s; V_D=6V$ $I_G=1A; di_G/dt=1A/\mu s$	400	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	300	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=1A; di_G/dt=1A/\mu s$	2	μs
t_q	$T_{VJ}=T_{VJM}; I_T=500A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=50V/\mu s; V_D=2/3V_{DRM}$ typ.	350	μs
R_{thJC}	DC current	0.072	K/W
R_{thJK}	DC current	0.096	K/W
d_s	Creeping distance on surface	12.7	mm
d_A	Creepage distance in air	9.6	mm
a	Maximum allowable acceleration	50	m/s ²

FEATURES

- * International standard package
- * Copper base plate
- * Pressure Contact Technology
- * BusBar Terminal
- * Isolation voltage 3600 V~
- * UL file NO.310749
- * RoHS compliant

APPLICATIONS

- * Motor control, softstarter
- * Power converter
- * Heat and temperature control for industrial furnaces and chemical processes
- * Lighting control
- * Solid state switches

ADVANTAGES

- * Simple mounting
- * Improved temperature and power cycling
- * Reduced protection circuits



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Thyristor-Diode Modules

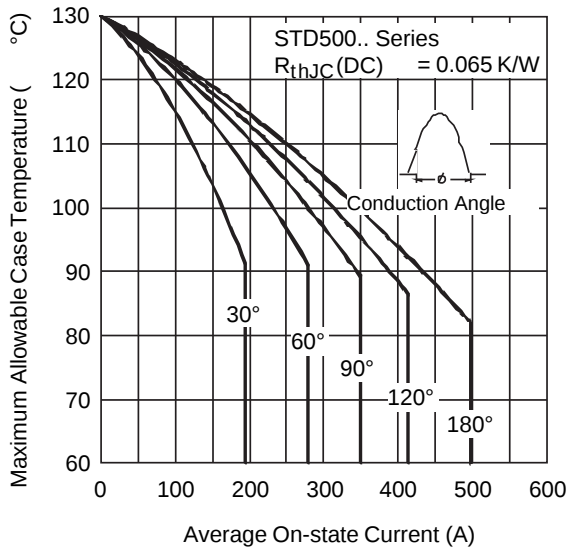


Fig. 1 - Current Ratings Characteristics

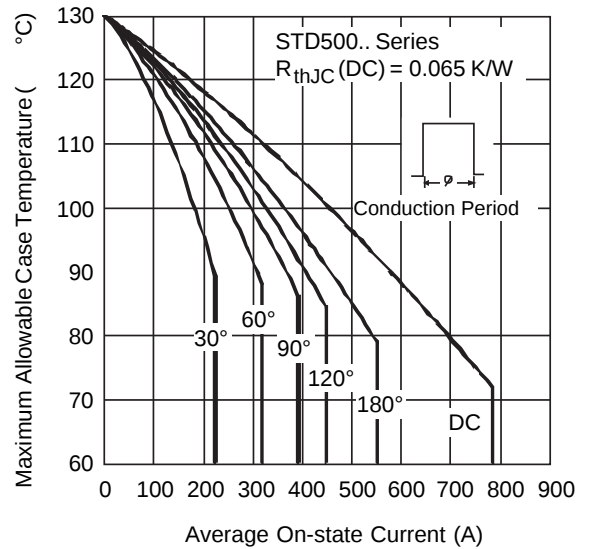


Fig. 2 - Current Ratings Characteristics

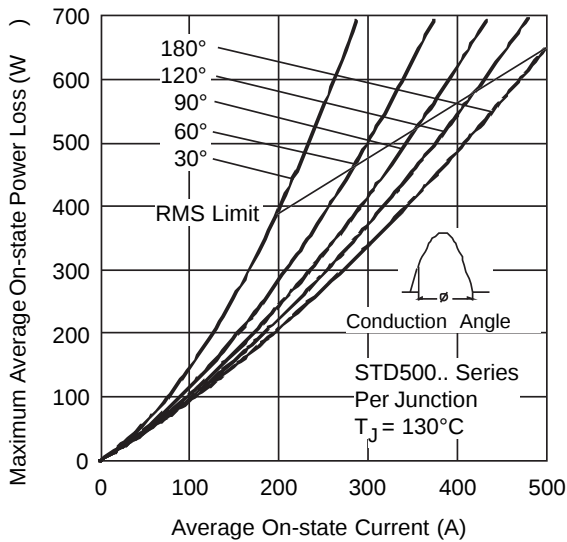


Fig. 3 - On-state Power Loss Characteristics

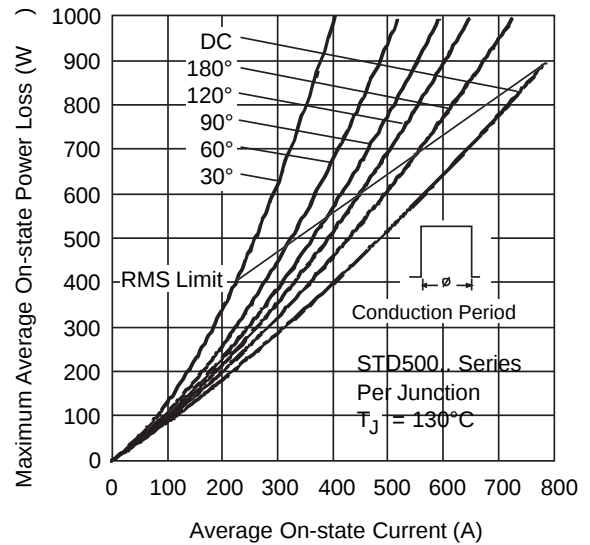


Fig. 4 - On-state Power Loss Characteristics

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Thyristor-Diode Modules

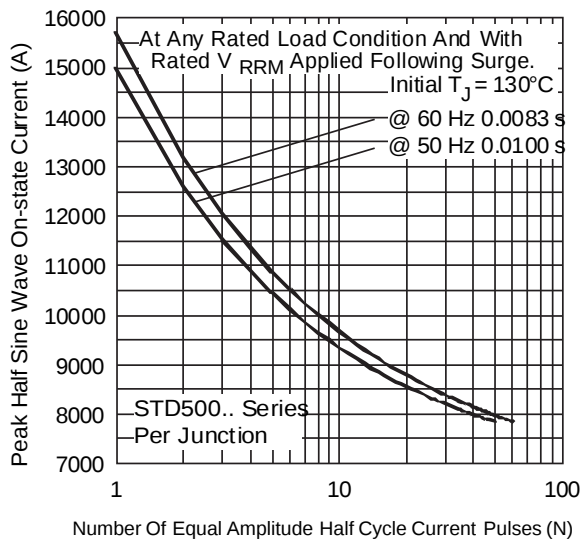


Fig. 5 - Maximum Non-Repetitive Surge Current

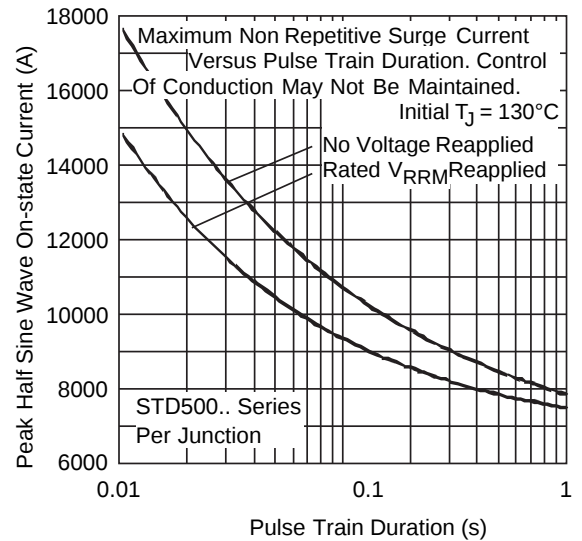


Fig. 6 - Maximum Non-Repetitive Surge Current

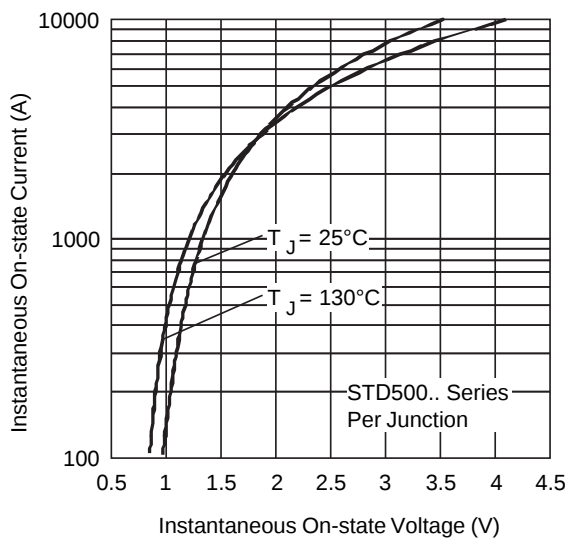


Fig. 7 - On-state Voltage Drop Characteristics

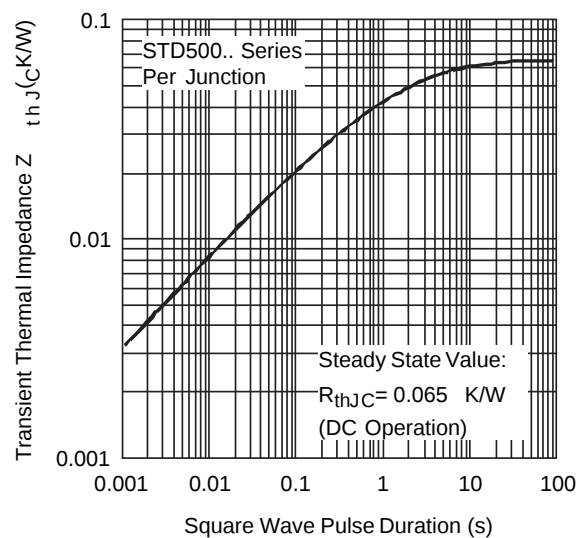


Fig. 8 - Thermal Impedance Z_{thJC} Characteristics

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Thyristor-Diode Modules

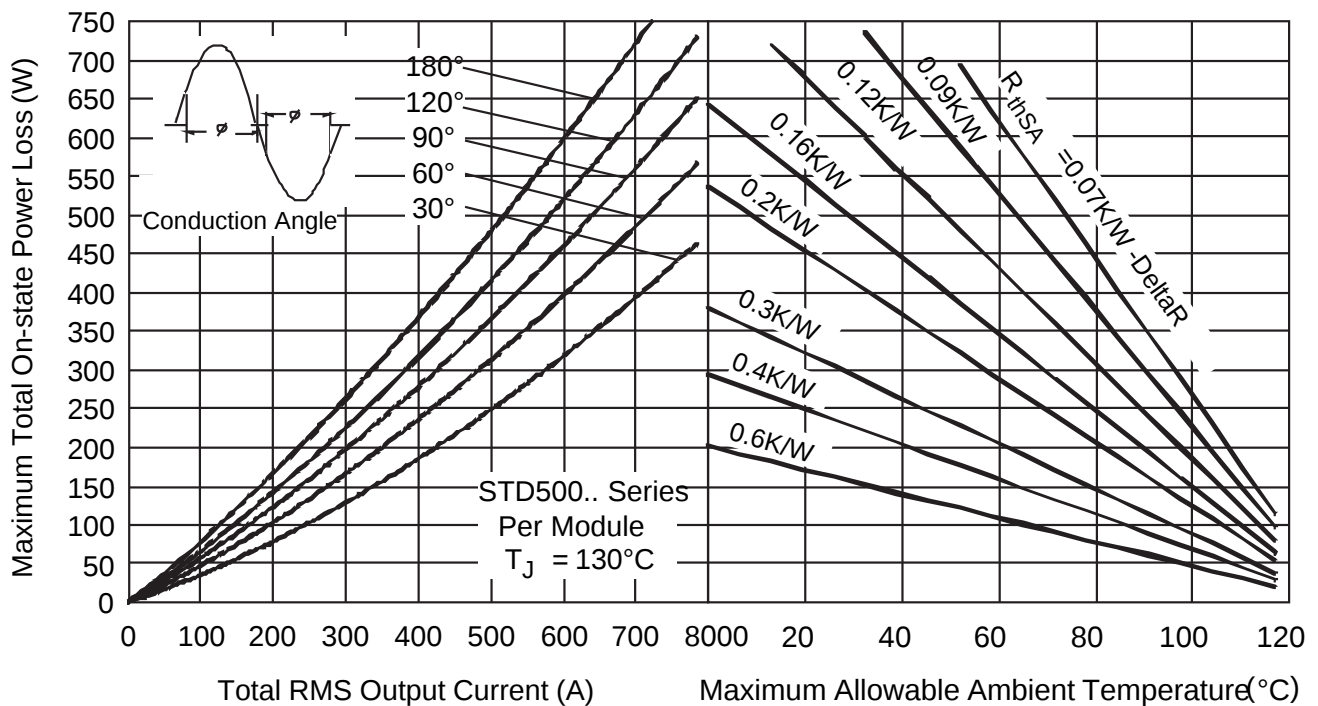


Fig. 9 - On-state Power Loss Characteristics

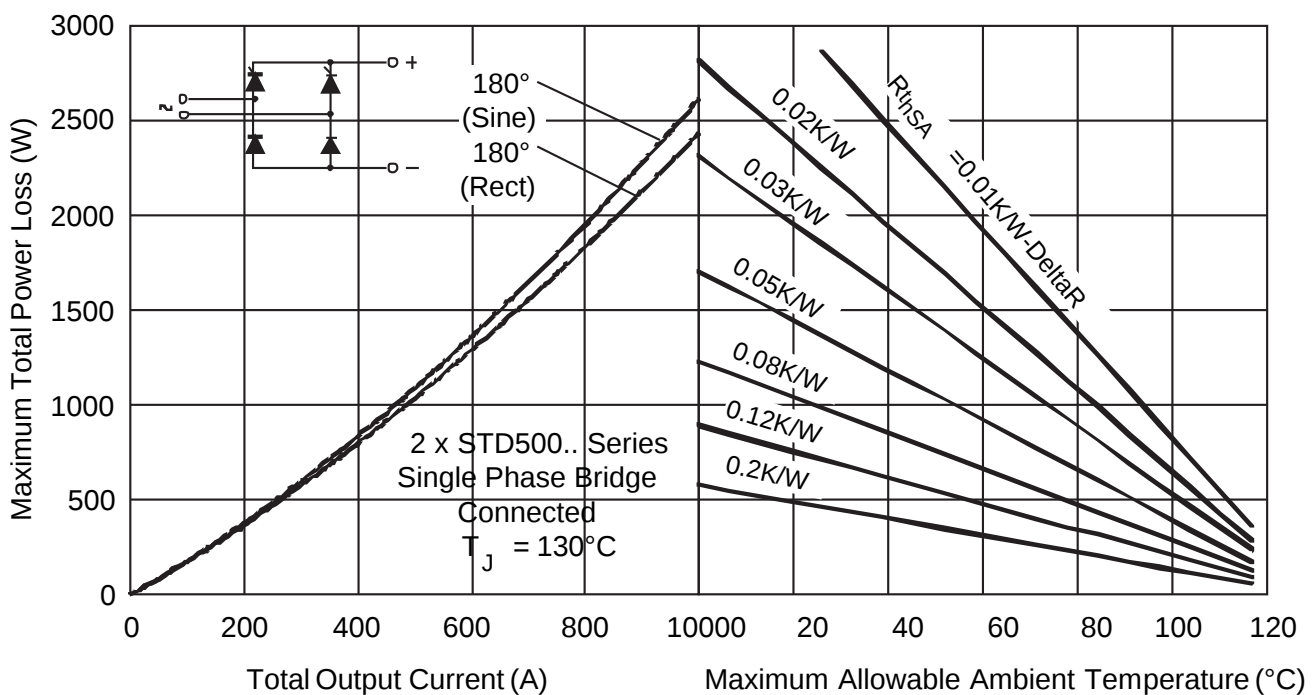


Fig. 10 - On-state Power Loss Characteristics

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Thyristor-Diode Modules

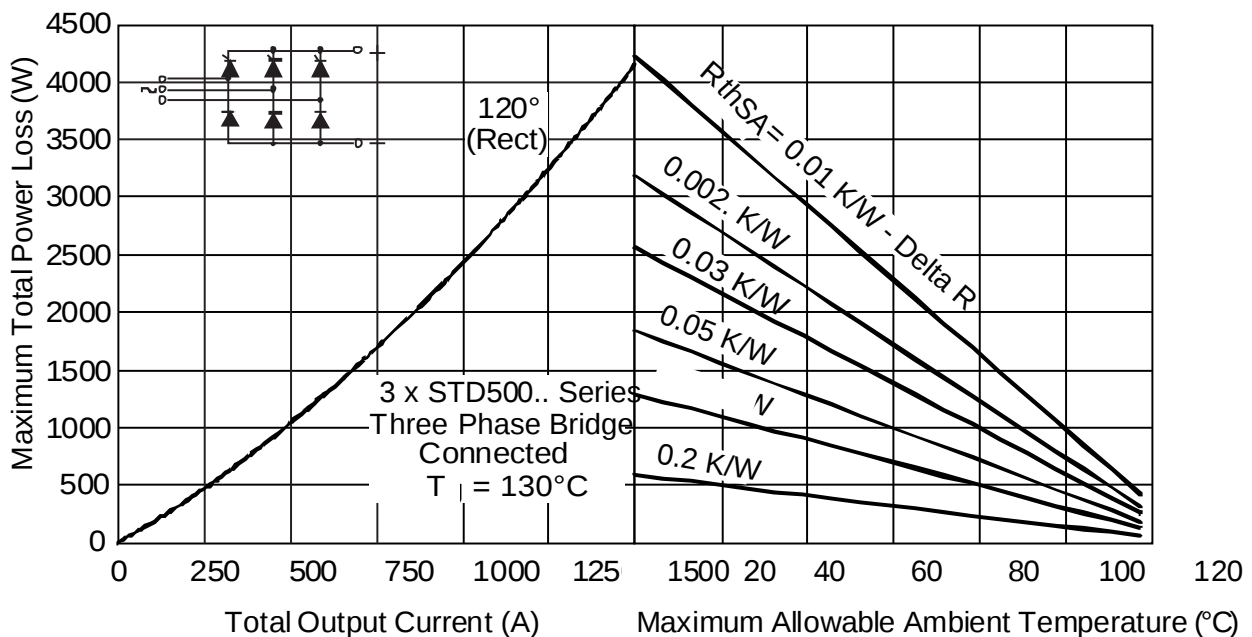


Fig. 11 - On-state Power Loss Characteristics

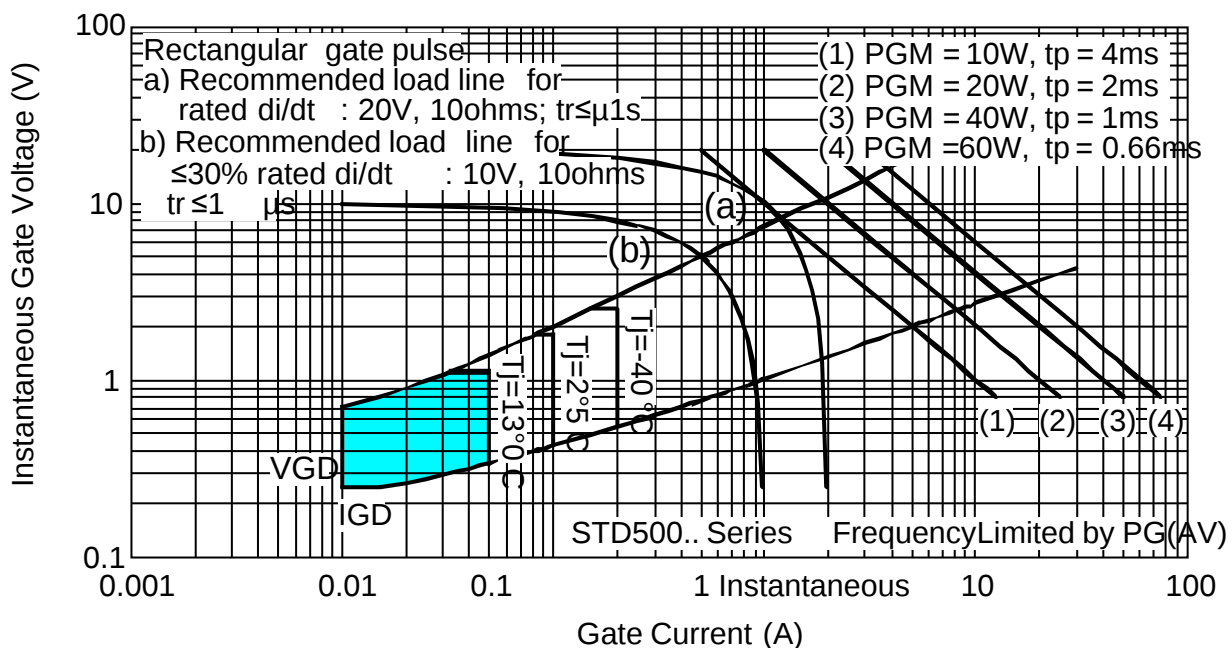


Fig. 12 - Gate Characteristics