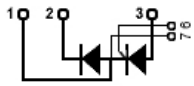
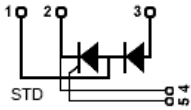


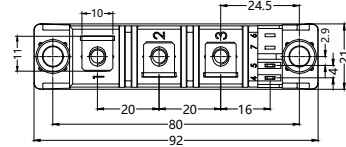
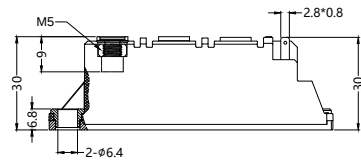
STD/SDT70GKxxB

Thyristor-Diode Modules, Diode-Thyristor Modules



Type	V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V
STD/SDT70GK08B	900	800
STD/SDT70GK12B	1300	1200
STD/SDT70GK14B	1500	1400
STD/SDT70GK16B	1700	1600
STD/SDT70GK18B	1900	1800
STD/SDT70GK20B	2100	2000
STD/SDT70GK22B	2300	2200
STD/SDT70GK24B	2500	2400

Dimensions in mm



Symbol	Test Conditions		Maximum Ratings	Unit
I_{TRMS} , I_{FRMS} I_{TAVM} , I_{FAVM}	$T_V=T_{VJM}$ $T_C=85^{\circ}\text{C}$; 180° sine		110 70	A
I_{TSM} , I_{FSM}	$T_V=45^{\circ}\text{C}$	$t=10\text{ms}$ (50Hz), sine	1600	A
	$V_R=0$	$t=8.3\text{ms}$ (60Hz), sine	1700	
	$T_V=T_{VJM}$	$t=10\text{ms}$ (50Hz), sine	1450	
	$V_R=0$	$t=8.3\text{ms}$ (60Hz), sine	1540	
j^2dt	$T_V=45^{\circ}\text{C}$	$t=10\text{ms}$ (50Hz), sine	13200	A^2s
	$V_R=0$	$t=8.3\text{ms}$ (60Hz), sine	13990	
	$T_V=T_{VJM}$	$t=10\text{ms}$ (50Hz), sine	9900	
	$V_R=0$	$t=8.3\text{ms}$ (60Hz), sine	10500	
$(di/dt)_{cr}$	$T_V=T_{VJM}$	repetitive, $I_T=150\text{A}$	150	A/us
	$f=50\text{Hz}$, $t_p=200\mu\text{s}$			
	$V_D=2/3V_{DRM}$	non repetitive, $I_T=I_{TAVM}$	500	
	$I_G=0.45\text{A}$ $di_G/dt=0.45\text{A}/\mu\text{s}$			
$(dv/dt)_{cr}$	$T_V=T_{VJM}$; $R_{GK}=\infty$; method 1 (linear voltage rise)	$V_{DR}=2/3V_{DRM}$	1000	V/us
P_{GM}	$T_V=T_{VJM}$ $I_T=I_{TAVM}$	$t_p=30\mu\text{s}$ $t_p=300\mu\text{s}$	10 5	W
P_{GAV}			0.5	W
V_{RGM}			10	V
T_V T_{VJM} T_{stg}			-40...+125 125 -40...+125	$^{\circ}\text{C}$
V_{ISOL}	50/60Hz, RMS $I_{ISOL}\leq 1\text{mA}$	$t=1\text{min}$ $t=1\text{s}$	3000 3600	V~
M_d	Mounting torque (M5) Terminal connection torque (M5)		2.5-4.0/22-35 2.5-4.0/22-35	Nm/lb.in.
Weight	Typical including screws		120	g

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STD/SDT70GKxxB

Thyristor-Diode Modules, Diode-Thyristor Modules

Symbol	Test Conditions	Characteristic Values	Unit
I_{RRM}, I_{DRM}	$T_{VJ}=T_{VJM}; V_R=V_{RRM}; V_D=V_{DRM}$	5	mA
V_T, V_F	$I_T, I_F=210A; T_{VJ}=25^{\circ}C$	1.60	V
V_{TO}	For power-loss calculations only ($T_{VJ}=125^{\circ}C$)	0.85	V
r_T		3.7	m Ω
V_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	1.5 1.6	V
I_{GT}	$V_D=6V;$ $T_{VJ}=25^{\circ}C$ $T_{VJ}=-40^{\circ}C$	100 200	mA
V_{GD}	$T_{VJ}=T_{VJM}; V_D=2/3V_{DRM}$	0.2	V
I_{GD}		10	mA
I_L	$T_{VJ}=25^{\circ}C; t_p=10\mu s; V_D=6V$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	450	mA
I_H	$T_{VJ}=25^{\circ}C; V_D=6V; R_{GK}=\infty$	200	mA
t_{gd}	$T_{VJ}=25^{\circ}C; V_D=1/2V_{DRM}$ $I_G=0.45A; di_G/dt=0.45A/\mu s$	2	μs
t_q	$T_{VJ}=T_{VJM}; I_T=150A; t_p=200\mu s; -di/dt=10A/\mu s$ $V_R=100V; dv/dt=20V/\mu s; V_D=2/3V_{DRM}$ typ.	150	μs
Q_s	$T_{VJ}=T_{VJM}; I_T, I_F=50A; -di/dt=3A/\mu s$	100	μC
I_{RM}		24	A
R_{thJC}	per thyristor/diode; DC current per module	0.45 0.225	K/W
R_{thJK}	per thyristor/diode; DC current per module	0.65 0.325	K/W
d_s	Creeping distance on surface	12.7	mm
d_A	Strike distance through air	9.6	mm
a	Maximum allowable acceleration	50	m/s ²

FEATURES

- * International standard package
- * Copper base plate
- * Glass passivated chips
- * Isolation voltage 3600 V~
- * UL file NO.310749
- * RoHs compliant

APPLICATIONS

- * DC motor control
- * Softstart AC motor controller
- * Light, heat and temperature control

ADVANTAGES

- * Space and weight savings
- * Simple mounting with two screws
- * Improved temperature and power cycling
- * Reduced protection circuits



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Thyristor-Diode Modules, Diode-Thyristor Modules

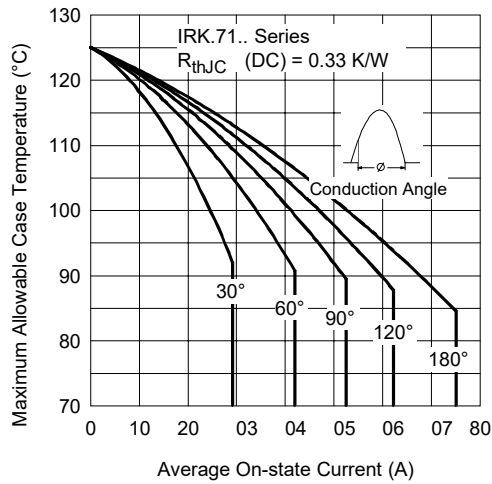


Fig. 1 - Current Ratings Characteristics

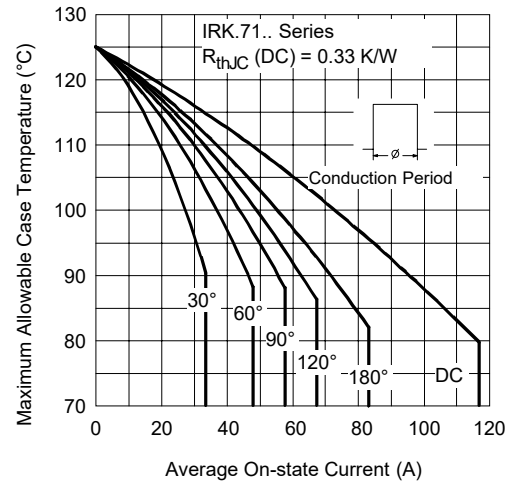


Fig. 2 - Current Ratings Characteristics

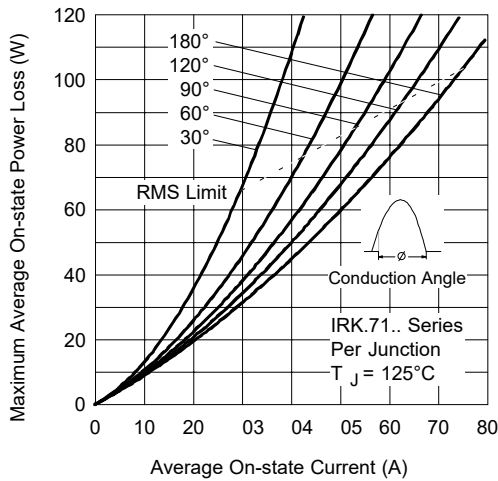


Fig. 3 - On-state Power Loss Characteristics

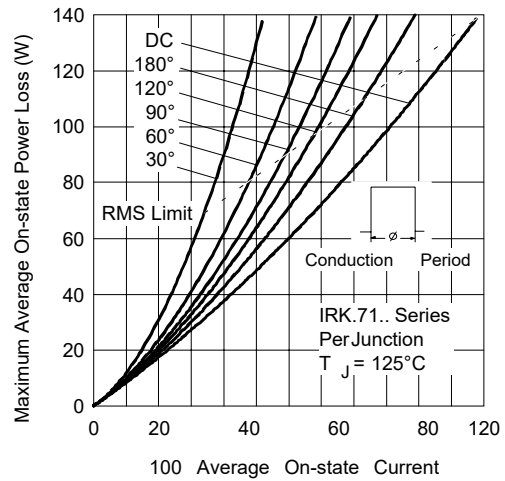


Fig. 4 - On-state Power Loss Characteristics

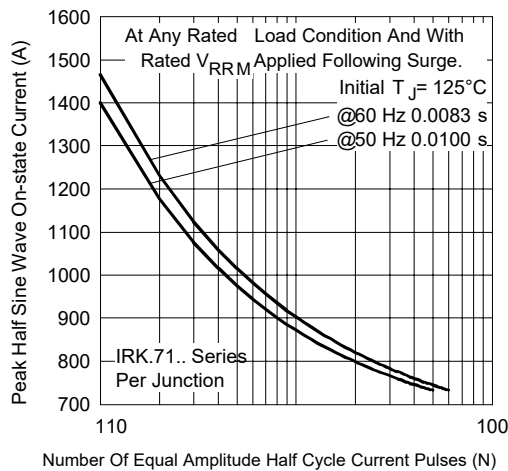


Fig. 5 - Maximum Non-Repetitive Surge Current

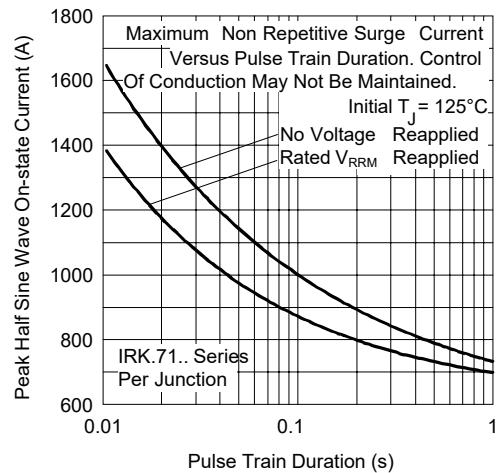


Fig. 6 - Maximum Non-Repetitive Surge Current

STD/SDT70GKxxB

Thyristor-Diode Modules, Diode-Thyristor Modules

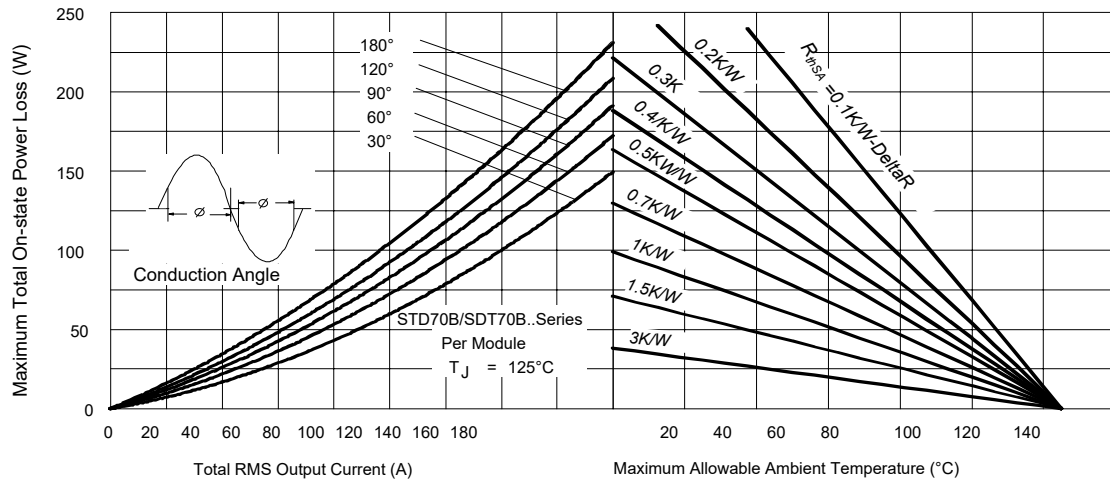


Fig. 7 - On-state Power Loss Characteristics

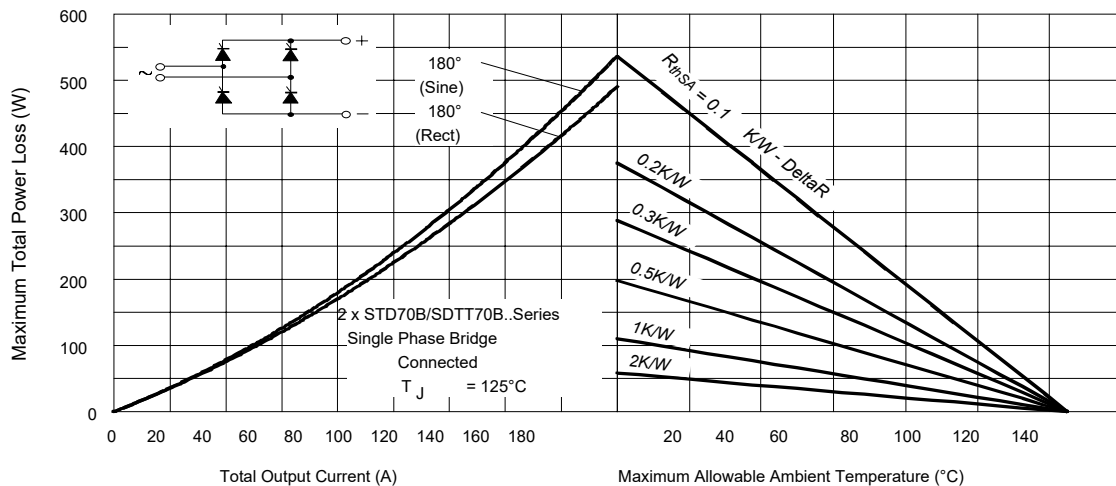


Fig. 8 - On-state Power Loss Characteristics

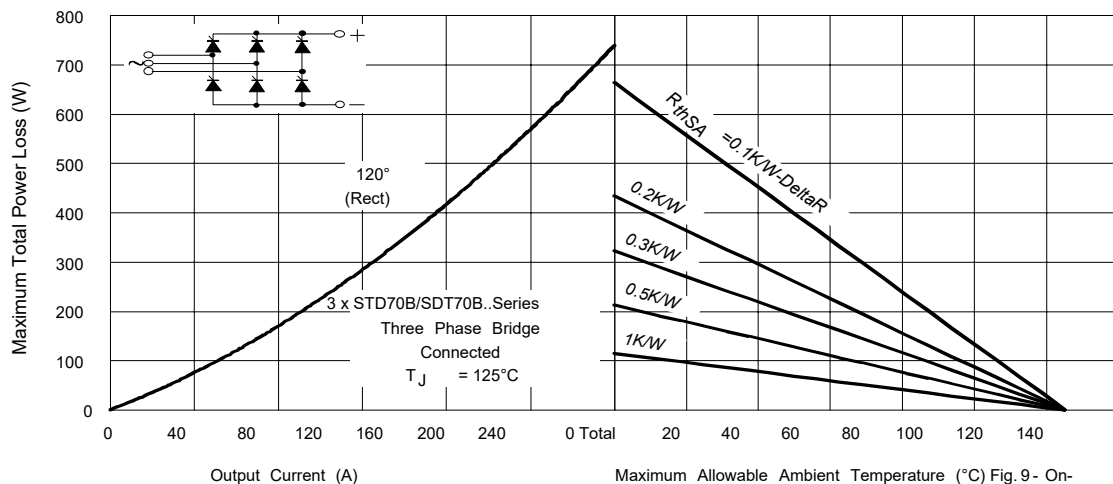


Fig. 9 - On-state Power Loss Characteristics