Rev.1.1 May 23 2024

JSKT320/JSKH320

Description

1) A package of series of two chips.
2) With high thermal conductivity DBC as the insulation.
3) Welding by vacuum welding technology, which provide high reliability.

Typical Application

DC motor control, temperature control and light control system.

Absolute Maximum Ratings (Packaged into modules, unless otherwise specified, T_{CASE}=25)

Parameter	Test Conditions	Symbol	Values			Unit
			12	16	18	
Operating junction temperature range		T_j	-40~125			
Storage temperature range		T_{stg}	-40~125			
Repetitive peak off-state voltage	T_j=25	V_{DRM}	1200	1600	1800	V
Repetitive peak reverse voltage	T_j=25	V_{RRM}	1200	1600	1800	V
Non-repetitive peak off-state voltage	T_j=25	V_{DSM}	1300	1700	1900	V
Non-repetitive peak reverse voltage	T_j=25	V_{RSM}	1300	1700	1900	V
Average on-state current	T_C=85	$I_{T(AV)}/I_{F(AV)}$	320			A
Peak on-state surge current	t_P=10ms V_R=0.6V_{RRM}	I_{TSM}/I_{FSM}	9500			A
I^2t value for fusing	t_P=10ms V_R=0.6V_{RRM}	I^2t	450000			A^2s
Critical rate of rise of on-state current	I_G=2×I_{GT}	di/dt	150			A/μs
Insulation voltage	A.C 50Hz(1s/1min)	V_{ISO}	3600/3000			V

Electrical Characteristics (Packaged into modules, unless otherwise specified, T_{CASE}=25)

Parameter	Test Conditions	Symbol	Values	Unit
Peak on-state voltage	I_T=960A t_P=380μs	V_{TM}	≤1.8	V
Threshold voltage	T_j=125	V_{TO}	≤0.8	V

Repetitive peak reverse current	$V_R=V_{RRM}$ $T_C=25$ $T_C=125$	I_{RRM1} I_{RRM2}	≤100 ≤100	μA mA
Triggering gate current	$V_D=12V$ $R_L=30\Omega$	I_{GT}	20-150	mA
Holding current	$I_T=1A$	I_H	≤300	mA
Latching current	$I_G=1.2\ I_{GT}$	I_L	≤400	mA
Triggering gate voltage	$V_D=12V$ $R_L=30\Omega$	V_{GT}	≤1.8	V
Non triggering gate voltage	$V_D=0.5V_{DRM}$ $T_j=125$	V_{GD}	≤0.25	V
Critical rate of rise of voltage	$V_D=2/3V_{DRM}$ $T_j=125$ Gate Open	dv/dt	≥1000	V/μs
Thermal resistance	Junction to case Case to heatsink	$R_{th(j-c)}$ $R_{th(c-s)}$	0.12 0.05	/W

Mechanical Characteristics

Module size	115mm×50mm
Module height	53mm
Terminal distance of (1) /(2) /(3)	42.5mm/35mm/23.5mm
Mounting torque(M5)	5±15%Nm
Terminal torque(M8)	9±15%Nm

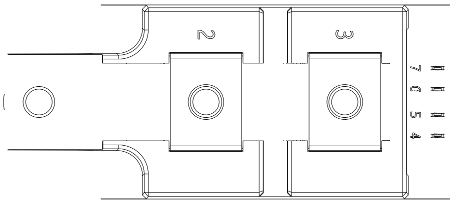

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FIG.3: Forward characteristics (per thyristor or diode)

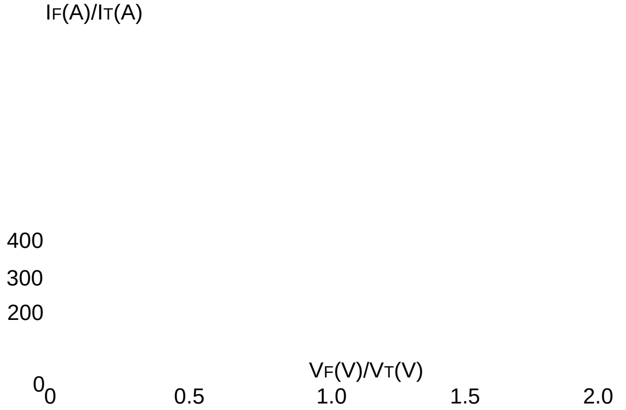

FIG.4: Relative variations of gate trigger current, holding current and latching current versus junction temperature