

MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Repetitive Peak Off-State Voltage	V_{DRM}	600	V
Non-Repetitive Peak Off-State Voltage ($T_j = 0 \sim 125^\circ\text{C}$)	V_{DSM}	720	V
R.M.S On-State Current	$I_{T(RMS)}$	470(F), 157(R)	A
Average On-State Current	$I_{T(AV)}$	300(F), 100(R)	A
Peak One Cycle Surge On-State Current (Non-Repetitive)	I_{TSM}	5500(F), 2200(R) 5000(F), 2000(R)	A
I^2t Limit Value	I^2t	125×10^3 (F), 10×10^3 (R)	A^2s
Critical Rate of Rise of On-State Current	di/dt	200	A/ μs
Peak Gate Power Dissipation	P_{GM}	16	W
Average Gate Power Dissipation	$P_{G(AV)}$	3	W
Peak forward gate current	I_{GM}	4	A
Peak forward gate voltage	V_{FGM}	16	V
Peak reverse gate voltage	V_{RGM}	-5	V
Junction temperature	T_j	-40~125	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~125	$^\circ\text{C}$
Mounting Force Required		1000 ± 100	kg

Note F : Forward, R : Reverse

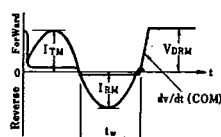
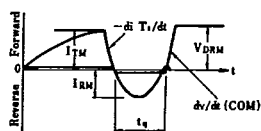
ELECTRICAL CHARACTERISTICS

CHARACTERISTIC	SYMBOL	CONDITION	MIN.	TYP.	MAX.	Unit
Repetitive Peak Off-State Current	I_{DRM}	$V_{DRM} = \text{Rated}$, $T_j = 125^\circ\text{C}$	—	—	30	mA
Peak On-State Voltage	V_{TM}	F : $I_{TM} = 1000\text{A}$, $T_c = 25^\circ\text{C}$ R : $I_{TM} = 300\text{A}$, $T_c = 25^\circ\text{C}$	—	—	1.8	V
Gate Trigger Voltage	V_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	—	—	1.8	V
Gate Trigger Current	I_{GT}	$V_D = 6\text{V}$, $R_L = 6\Omega$	—	—	4.5	V
Gate Non-Trigger Voltage	V_{GD}	$T_c = -40^\circ\text{C}$	—	—	3.0	V
Gate Non-Trigger Current	I_{GD}	$T_c = 25^\circ\text{C}$	—	—	300	mA
Delay time	t_d	$V_D = 0.5 \text{ Rated}$, $T_c = 25^\circ\text{C}$	—	—	200	mA
Turn-on time	t_{gt}	Gate Supply ($V_G = 15\text{V}$, $R_G = 8\Omega$, $t_r \leq 1\mu s$)	0.15	—	3.0	V
Turn-off time (Note 1)	t_q	$I_{TM} = 600\text{A}$, $di/dt = -30\text{A}/\mu s$, $I_{RM} = 300\text{A}$, V_{DRM} (Reapplied) = 0.5 Rated, $dv/dt(c) = 300\text{V}/\mu s$, $T_c = 120^\circ\text{C}$	—	—	6.0	μs
Holding current	I_H	$T_c = 25^\circ\text{C}$, $R_L = 6\Omega$	—	—	30	μs
Critical rate of rise of commutating off-state Voltage	$dv/dt(c)$	$I_{TM} = 1000\text{A}$, $I_{RM} = 800\text{A}$, V_{DRM} (Reapplied) = Rated, Pulse Width = $50\mu s$, $T_c = 125^\circ\text{C}$	300	—	500	mA
Thermal Resistance *	$R_{th(j-f)}$	DC	—	—	0.09	$^\circ\text{C}/\text{W}$

* Junction to Fin

Note 1. Voltage/current waveform in measuring turn-off time

Note 2. Voltage/current waveform in testing critical rate of rise of commutating off-state Voltage.



GATE TRIGGERING CHARACTERISTICS

