

Characteristics

Figure 1 – On-state characteristic curves

	PARAMETER	MIN.	TYP.	MAX.	TEST CONDITIONS (Note 1)	UNITS
V_{TM}	Maximum peak off-state voltage	-	-	1.50	$I_{TM}=4000A$	V
V_{TM}	Maximum peak on-state voltage	-	-	2.10	$I_{TM}=8000A$	V
V_{TO}	Threshold voltage	-	-	0.90		V
r_T	Slope resistance	-	-	0.25		m Ω
$(dv/dt)_{cr}$	Critical rate of rise of off-state voltage	1000	-	-	$V_D=80\% V_{DRM}$, linear ramp, gate o/c	V/ μs
I_{DRM}	Peak off-state current	-	-	250	Rated V_{DRM}	mA
I_{RRM}	Peak reverse current	-	-	250	Rated V_{RRM}	mA
V_{GT}	Gate trigger voltage	-	-	3.0	$T_J=25^\circ C$	V
I_{GT}	Gate trigger current	-	-	300	$V_D=10V$, $I_T=3A$	mA
V_{GD}	Gate non-trigger voltage	-	-	0.25	Rated V_{DRM}	V
I_H	Holding current	-	-	1000	$T_J=25^\circ C$	mA
t_{gd}	Gate-controlled turn-on delay time	-	0.7	1.5	$V_D=67\% V_{DRM}$, $I_T=2000A$, $dI/dt=10A/\mu s$, $I_{GC}=2A$, $t_r=0.5\mu s$, $T_J=25^\circ C$	μs
t_{gt}	Turn-on time	-	20	40		μs
Q_{rr}	Recovered charge	-	7000	7700		μC
Q_{rr}	Recovered charge, 50% C_{hold}	-	4500	-	$I_{RRM}=4000A$, $t_r=2000\mu s$, $dI/dt=10A/\mu s$, $V_F=100V$	μC
I_{rr}	Reverse recovery current	0.50	1.0 $\pm$ 0.10	1.50		A
t_{rr}	Reverse recovery time	-	-	-		μs
t_q	Turn-off time	-	250	-	$I_{TM}=4000A$, $t_c=2000\mu s$, $dI/dt=10A/\mu s$, $V_F=100V$, $V_D=80\% V_{DRM}$, $dV_d/dt=20V/\mu s$	μs
	Figure 2 – Transient thermal impedance	-	400	-	$I_{TM}=4000A$, $t_c=2000\mu s$, $dI/dt=10A/\mu s$, $V_F=100V$, $V_D=80\% V_{DRM}$, $dV_d/dt=200V/\mu s$	μs
R_{thJA}	Thermal resistance junction to heat sink	-	-	0.0020	By lead solder	K/W
		-	-	0.0013	At 100°C	K/W
		-	-	0.0020	Cathode side cooled	K/W
F	Mounting force	50	-	75	Note 2	kN
W_t	Weight	-	1.15	2		kg

Notes:

- 1) Unless otherwise indicated, $T_J=25^\circ C$.
- 2) For other clamping forces, please consult factory.

