CAPITÓLIO

MODULE TYPE CSST500

VOLTAGE RATINGS MAXIMUM	LIMITS UNITS
V_{DRM} Repetitive peak off-state voltage, (note 1)	1600-2200 V
V_{DSM} Non-repetitive peak off-state voltage, (note 1)	1600-2200 V
V_{RRM} Repetitive peak reverse voltage, (note 1)	1600-2200 V
V_{RSM} Non-repetitive peak reverse voltage	1700-2300V

OTHER RATINGS MAXIMUM LIMITS UNITS

$I_{T(AV)M}$ Maximum average on-state current, Tcase=89°C	500A
$I_{T(AV)M}$ Maximum average on-state current. Tcase=85°C,	545A
$I_{T(AV)M}$ Maximum average on-state current. Tcase=100°C,	376A
$I_{T(RMS)M}$ Nominal RMS on-state current, Tcase=55°C	1294A
$I_{T(d.c.)}$ D.C. on-state current, Tcase=55°C	1029A
I_{TSM} Peak non-repetitive surge tp=10ms, Vrm=0.6VRRM	16.5kA
I_{TSM2} Peak non-repetitive surge tp=10ms, Vrm≤10V,	18.2kA
I^2t capacity for fusing tp=10ms, Vrm=0.6VRRM	1.36x106 A^2s
I^2t capacity for fusing tp=10ms, Vrm≤10V	1.66x106 A^2s
$(di/dt)_{cr}$ Critical rate of rise of on-state current (repetitive)	150A/µs
$(di/dt)_{Cr}$ Critical rate of rise of on-state current (non-repetitive)	300A/µs
V_{RGM} Peak reverse gate voltage	5V
$P_{G(AV)}$ Mean forward gate power	4W
P_{GM} Peak forward gate power	30W
V_{isol} Isolation Voltage	4800/4000V
$T_{j\,op}$ Operating temperature range	40 to +125 °C
T_{stg} Storage temperature range	40 to +150 °C

	PARAMETER	MIN.	TYP	MAX	TEST Conditions	Unit
V_{TM}	Maximum peak on-state voltage	-	-	1.5	I_{TM}=1700A	V
V_{TM}	Maximum peak on-state voltage	-	-	1.47	I_{TM}=1500A	V
V_{T0}	Threshold voltage	-	-	0.85		V
r_T	Slope resistance	-	-	0.27		mΩ
$(dv/dt)_{cr}$	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	-	-	70	Rated V_{DRM}	mA
I_{RRM}	Peak reverse current	-	-	70	Rated V_{RRM}	mA
V_{GT}	Gate trigger voltage	-	-	3.0	T_j=25℃, V_D=10V, I_T=3A	V
I_{GT}	Gate trigger current	-	-	300	T_j=25℃, V_D=10V, I_T=3A	mA
I_H	Holding current	-	-	1000	T_j=25℃	mA

t_{gd}	Gate controlled turn-on delay time	-	0.6	1.5	I_{FG}=2A, t_r=0.5μs, V_D=67%V_{DRM}, I_{TM}=2000A, di/dt=10A/μs, T_j=25℃ μs	μs
t_{gt}	Turn-on time	-	1.2	2.5	I_{FG}=2A, t_r=0.5μs, V_D=67%V_{DRM}, I_{TM}=2000A, di/dt=10A/μs, T_j=25℃ μs	μs
Q_{rr}	Recovered Charge	-	2200	-	I_{TM}=1000A, t_p=1ms, di/dt=10A/μs, V_r=50V	μC
Q_{ra}	Recovered Charge 50% chord	-	1600	1900	I_{TM}=1000A, t_p=1ms, di/dt=10A/μs, V_r=50V	μC
I_{rm}	Reverse recovery current	-	120	-	I_{TM}=1000A, t_p=1ms, di/dt=10A/μs, V_r=50V	μC
t_{rr}	Reverse recovery time, 50% chord	-	25	-	I_{TM}=1000A, t_p=1ms, di/dt=10A/μs, V_r=50V	A
t_q	Turn-off time	-	300	-	I_{TM}=1000A, t_p=1ms, di/dt=10A/μs, V_r=50V, V_{dr}=80%V_{DRM}, dV_{dr}/dt=20V/μs	μs
R_{thJC}	Thermal resistance, junction to case	-	-	0.031	Whole Module	K/W
R_{thCK}	Thermal resistance, case to heatsink	-	-	0.01	Whole Module	K/W
F_1	Mounting force (to heatsink)	4.25	-	5.75		Nm
F_2	Mounting force (to terminals)	14.45	-	19.55		Nm
W_t	Weight	-	1.5	-		Kg

Voltage Grade	V_{DRM} V_{DSM} V_{RRM} V	V_{RSM} V	V_D V_R DC V
16	1600	1700	820
18	1800	1900	1150
22	2200	2300	1393