



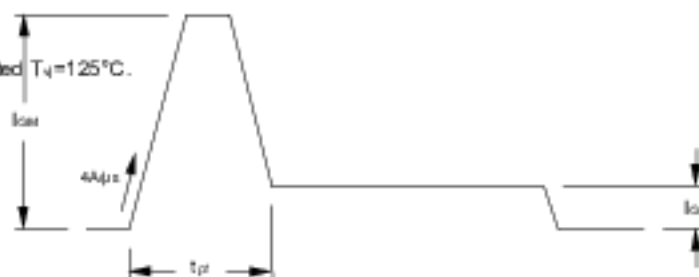
Characteristics and Mechanicals

1.0 Voltage Grade Table

1.0 Parameter Table		MIN.	TYP.	MAX.	TEST CONDITIONS ¹⁾		UNITS
V _{TM}	Maximum peak on-state voltage	V _{DSM} , V _{RRM}	-	1.35	I _T = 4300A	V _D , V _R	V
V _{TM}	Maximum peak on-state voltage	1800	-	2.12	I _T = 13000A	DC V	V
V _{TD}	Threshold voltage	2200-	-	0.886	2300	1320	V
r _T	Slope resistance	-	-	0.105			mΩ
(dv/dt) _T	Critical rate of rise of off-state voltage	1000	-	-	V _D = 80% V _{DSM} , linear ramp, Gate o/c		V/μs
I _{ORM}	Peak off-state current	-	-	200	Rated V _{DSM}		mA
I _{RRM}	Peak reverse current	-	-	200	Rated V _{RRM}		mA
V _{GT}	Gate trigger voltage	-	-	30	T _J = 25°C		V
I _{GT}	Gate trigger current	-	-	300	V _D = 10V, I _T = 3A		mA
V _{GD}	Gate reverse voltage	-	-	0.25	Rated V _{DSM}		V
I _H	Holding current	-	-	1000	T _J = 25°C		mA
t _{gd}	Gate-controlled turn-on delay time	-	0.7	1.5	V _D = 67% V _{DSM} , I _T = 2000A, di/dt = 10A/μs,		μs
t _{gf}	Turn-on time	-	2.0	4.0	I _{GT} = 2A, I _T = 0.5I _T , T _J = 25°C		μs
Q _{rr}	Reverse Charge	-	5700	7400	I _{RM} = 4000A, t _f = 2000μs, di/dt = 10A/μs, V _f = 50V		μC
Q _{rr}	Recovered Charge, 50% chord	-	3400	-			μC
I _{em}	Rate of rise of on-state current	-	180	-			A
t _{er}	Turn-off time	-	-	-			μs
R _{thJC}	Thermal resistance, junction to case	-	-	0.0306	rate of rise of current must not exceed 200A/μs at any time during turn-on. Note that these values are for a typical snubber network.		K/W
R _{thCH}	Thermal resistance, case to heat sink	-	-	0.0035			K/W
F ₁	Mounting torque (to heatsink) ²⁾	16	-	23			Nm
F ₂	Mounting torque (to terminals) ³⁾	15	-	20			Nm
W _t	Weight	-	-	-	The nominal requirement for a typical gate drive is illustrated below. An open-circuit voltage of at least 30V is required. This gate drive must be applied when using the full di/dt capability of the device.		kg

Notes:

- 1) Unless otherwise indicated $T_J = 125^\circ C$.
- 2) Heatsink use M10.
- 3) Terminals use M12.



The magnitude of I_{GM} should be between five and ten times I_{GT} , which is shown on page 2. Its duration (t_{gd}) should be 20μs or sufficient to allow the anode current to reach ten times I_L , whichever is greater. Otherwise, an increase in pulse current could be needed to supply the necessary charge to trigger. The 'back-porch' current I_G should remain flowing for the same duration as the anode current and have a magnitude in the order of 1.5 times I_{GT} .