

Electrical parameters

Symbol	Conditions	Ratings		
		min.	typ.	max.
I_R	$V_D = V_r = V_{rr}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			0.1 mA 20 mA
V_T	$I_T = 200\text{ A}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 150^\circ\text{C}$			1.38 V 1.40 V
V_{T0}	For power-loss calculations only			0.9 V
r_T	$T_{VJ} = 150^\circ\text{C}$			2.40 m Ω
V_{GT}	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			1.5 V 1.6 V
I_{GT}	$V_D = 6\text{ V}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	27		95 mA 200 mA
V_{GD}	$T_{VJ} = 150^\circ\text{C}$ $V = \frac{2}{3} V_{DRM}$			0.2 V
I_{GD}				10 mA
I_L	$t_p = 10\ \mu\text{s}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.45\text{ A}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$			450 mA
I_H	$R_{GK} = \infty$ $T_{VJ} = 25^\circ\text{C}$ $V_D = 6\text{ V}$			200 mA
t_{gd}	$V_D = \frac{1}{2} V_{DRM}$ $T_{VJ} = 25^\circ\text{C}$ $I_G = 0.5\text{ A}$ $di_G/dt = 0.5\text{ A}/\mu$			2 μs
t_q	$V_R = 100\text{ V}$ $I_T = 150\text{ A}$ $-di/dt = 10\text{ A}/\mu\text{s}$ $t_p = 200\ \mu\text{s}$ $dv/dt = 20\text{ V}/\mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $T_{VJ} = 150^\circ\text{C}$		150	μs
$(di/dt)_{cr}$	repetitive $I_T = 150\text{ A}$ non repetitive $I_T = 97\text{ A}$ $V = \frac{2}{3} V_{DRM}$ $T_{VJ} = 150^\circ\text{C}$ $di_G/dt = 0.45\text{ A}/\mu\text{s}$ $I_G = 0.45\text{ A}$ $t_p = 200\ \mu\text{s}$ $f = 50\text{ Hz}$			150 A/ μs 500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = 150^\circ\text{C}$ $V_{DR} = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$ method 1 (linear voltage rise)			1000 V/ μs
P_{GM}	$T_{VJ} = 150^\circ\text{C}$ $t_p = 30\ \mu\text{s}$ $t_p = 3E\ \mu\text{s}$			10 W 5 W
P_{GAV}				0.5 W
V_{RGM}				10 V
T_{VJ}		-40		150 $^\circ\text{C}$
$I_{T(AV)}$	$T_C = 100^\circ\text{C}$ 180° rect. $T_{VJ} = 150^\circ\text{C}$ 180° sine			97 A tbd A
I_{TSM}^*	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine $T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			1500 A 1700 A 1300 A 1380 A
I^2t^*	$T_{VJ} = 45^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine $T_{VJ} = 150^\circ\text{C}$ $t = 10\text{ ms}$ (50) Hz, sine $V_R = 0\text{ V}$ $t = 8.3\text{ ms}$ (60) Hz, sine			11250 A s^2 11994 A s^2 8450 A s^2 7903 A s^2
R_{thJC}^*	DC current		0.38	K/W

* Data according to assembled product tbd

Data according to IEC 60747

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