

Electrical Characteristics, at $T_j = 25\text{ °C}$, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	

Switching Characteristics, Inductive Load at $T_j = 125\text{ °C}$

Turn-on delay time $V_{CC} = 1200\text{ V}$, $V_{GE} = 15\text{ V}$, $I_C = 75\text{ A}$ $R_{Gon} = 22\ \Omega$	$t_{d(on)}$	-	400	800	ns
Rise time $V_{CC} = 1200\text{ V}$, $V_{GE} = 15\text{ V}$, $I_C = 75\text{ A}$ $R_{Gon} = 22\ \Omega$	t_r	-	150	300	
Turn-off delay time $V_{CC} = 1200\text{ V}$, $V_{GE} = -15\text{ V}$, $I_C = 75\text{ A}$ $R_{Goff} = 22\ \Omega$	$t_{d(off)}$	-	650	1000	
Fall time $V_{CC} = 1200\text{ V}$, $V_{GE} = -15\text{ V}$, $I_C = 75\text{ A}$ $R_{Goff} = 22\ \Omega$	t_f	-	90	140	

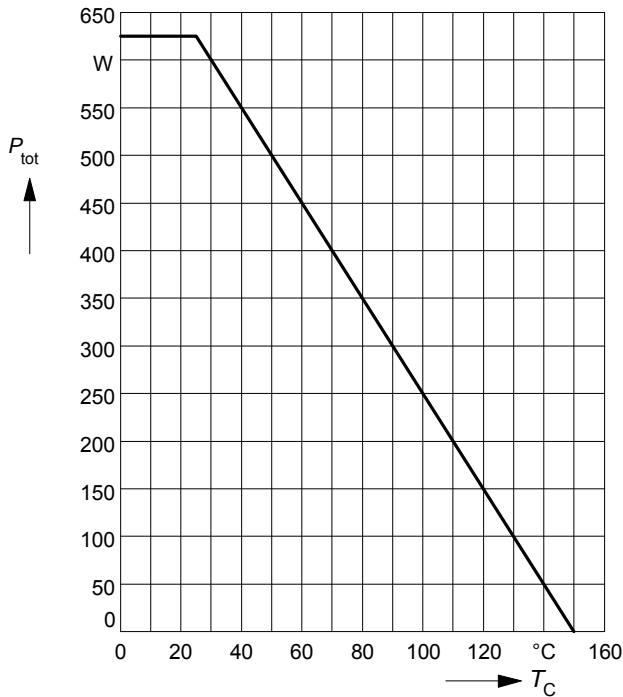
Free-Wheel Diode

Diode forward voltage $I_F = 75\text{ A}$, $V_{GE} = 0\text{ V}$, $T_j = 25\text{ °C}$ $I_F = 75\text{ A}$, $V_{GE} = 0\text{ V}$, $T_j = 125\text{ °C}$	V_F	-	2.3 2.1	2.8 -	V
Reverse recovery time $I_F = 75\text{ A}$, $V_R = -1200\text{ V}$, $V_{GE} = 0\text{ V}$ $di_F/dt = -800\text{ A}/\mu\text{s}$, $T_j = 125\text{ °C}$	t_{rr}	-	0.3	-	
Reverse recovery charge $I_F = 75\text{ A}$, $V_R = -1200\text{ V}$, $V_{GE} = 0\text{ V}$ $di_F/dt = -800\text{ A}/\mu\text{s}$ $T_j = 25\text{ °C}$ $T_j = 125\text{ °C}$	Q_{rr}	-	7 21	- -	μC

Power dissipation

$P_{tot} = f(T_C)$

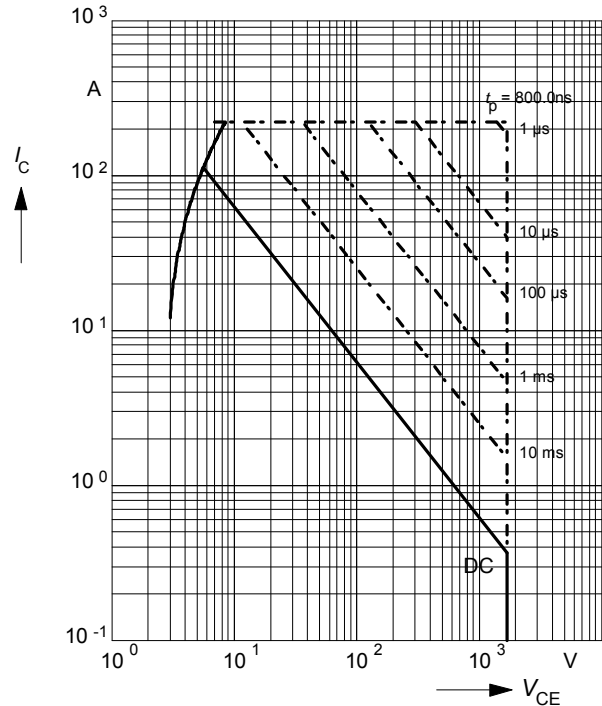
parameter: $T_j \leq 150\text{ }^\circ\text{C}$



Safe operating area

$I_C = f(V_{CE})$

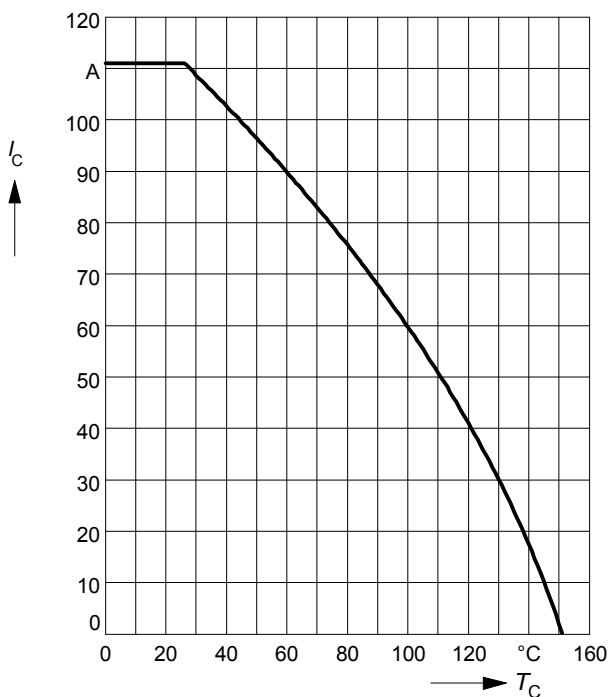
parameter: $D = 0, T_C = 25\text{ }^\circ\text{C}, T_j \leq 150\text{ }^\circ\text{C}$



Collector current

$I_C = f(T_C)$

parameter: $V_{GE} \geq 15\text{ V}, T_j \leq 150\text{ }^\circ\text{C}$



Transient thermal impedance IGBT

$Z_{thJC} = f(t_p)$

parameter: $D = t_p / T$

