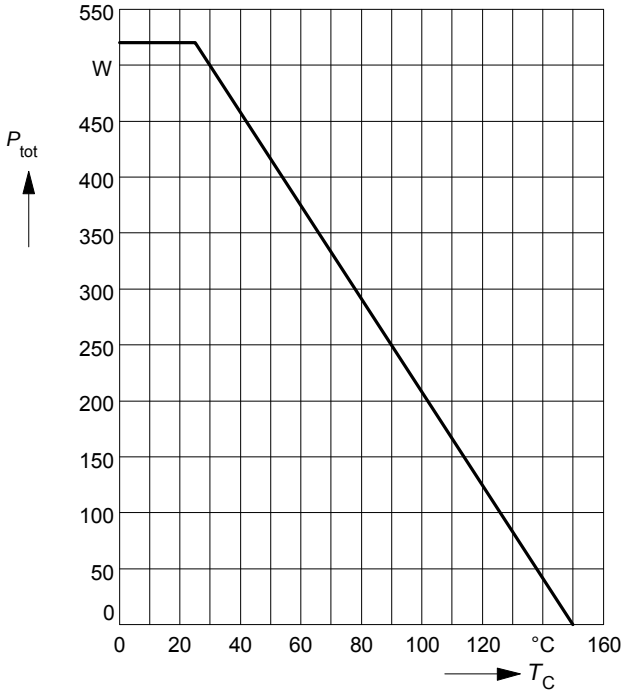
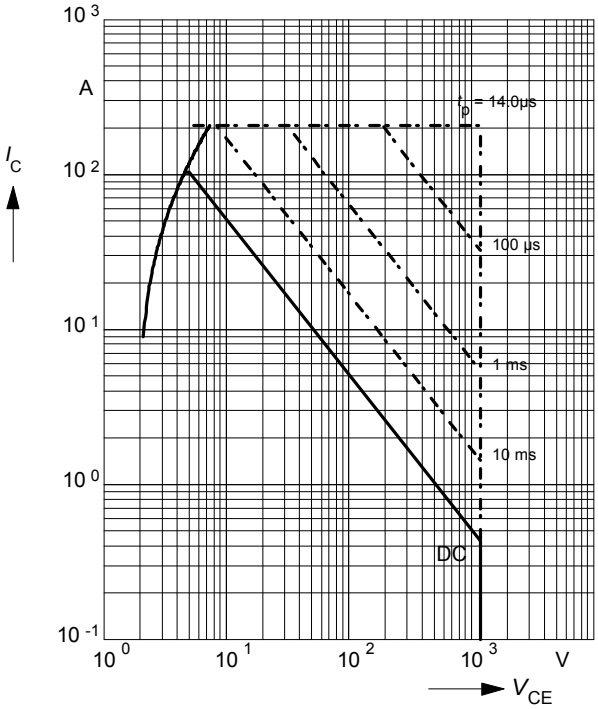
Electrical Characteristics, at T_j = 25 °C, unless otherwise specified

Parameter	Symbol	Values			Unit
		min.	typ.	max.	
Switching Characteristics, Inductive Load at T_j = 125 °C					
Turn-on delay time V_{CC} = 600 V, V_{GE} = 15 V, I_C = 75 A R_{Gon} = 15 Ω	$t_{d(on)}$	- -	 30	 60	ns
Rise time V_{CC} = 600 V, V_{GE} = 15 V, I_C = 75 A R_{Gon} = 15 Ω	t_r	 -	 70	 140	
Turn-off delay time V_{CC} = 600 V, V_{GE} = -15 V, I_C = 75 A R_{Goff} = 15 Ω	$t_{d(off)}$	 -	 450	 600	
Fall time V_{CC} = 600 V, V_{GE} = -15 V, I_C = 75 A R_{Goff} = 15 Ω	t_f	 -	 70	 100	
Free-Wheel Diode					
Diode forward voltage I_F = 75 A, V_{GE} = 0 V, T_j = 25 °C I_F = 75 A, V_{GE} = 0 V, T_j = 125 °C	V_F	 - -	 2.3 1.8	 2.8 -	V
Reverse recovery time I_F = 75 A, V_R = -600 V, V_{GE} = 0 V di_F/dt = -900 A/µs, T_j = 125 °C	t_{rr}	 -	 0.125	 -	µs
Reverse recovery charge I_F = 75 A, V_R = -600 V, V_{GE} = 0 V di_F/dt = -800 A/µs, T_j = 25 °C di_F/dt = -800 A/µs, T_j = 125 °C di_F/dt = -900 A/µs, T_j = 25 °C	Q_{rr}	 - -	 3.2 10	 - -	µC

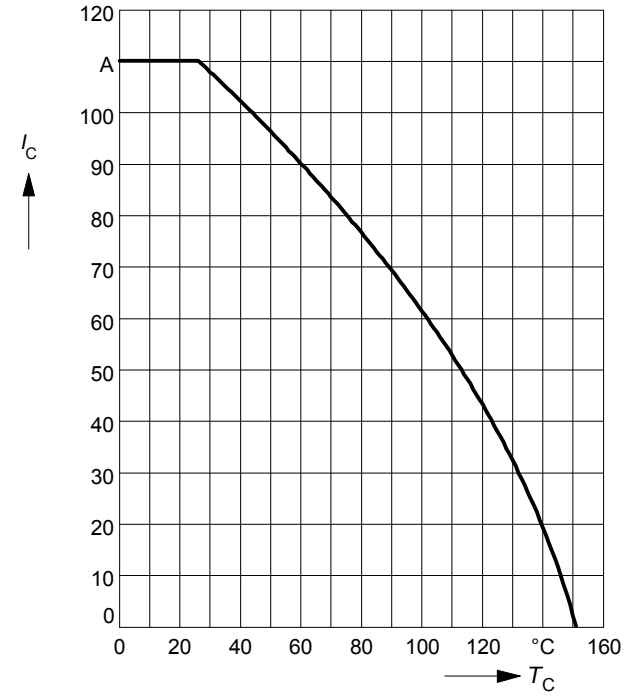
Power dissipation
$P_{tot} = f(T_C)$
parameter: $T_j \leq 150$ °C



Safe operating area
$I_C = f(V_{CE})$
parameter: $D = 0$, $T_C = 25$°C , $T_j \leq 150$ °C



Collector current
$I_C = f(T_C)$
parameter: $V_{GE} \geq 15$ V , $T_j \leq 150$ °C



Transient thermal impedance IGBT
$Z_{th\,JC} = f(t_p)$
parameter: $D = t_p / T$