Switching Characteristic, Inductive Load, at T_j=25 °C

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
IGBT Characteristic						
Turn-on delay time	$t_{d(on)}$	T_j=25°C, V_{CC}=600V, I_C=60A, V_{GE}=0/15V, R_G=10Ω, L_σ [2)]=180nH, C_σ [2)]=39pF Energy losses include "tail" and diode reverse recovery.	-	50	-	ns
Rise time	t_r		-	44	-	
Turn-off delay time	$t_{d(off)}$		-	480	-	
Fall time	t_f		-	80	-	
Turn-on energy	E_{on}		-	4.3	-	mJ
Turn-off energy	E_{off}		-	5.2	-	
Total switching energy	E_{ts}		-	9.5	-	

Switching Characteristic, Inductive Load, at T_j=150 °C

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
IGBT Characteristic						
Turn-on delay time	$t_{d(on)}$	T_j=150°C V_{CC}=600V, I_C=60A, V_{GE}=0/15V, R_G= 10Ω, L_σ [2)]=180nH, C_σ [2)]=39pF Energy losses include "tail" and diode reverse recovery.	-	50	-	ns
Rise time	t_r		-	45	-	
Turn-off delay time	$t_{d(off)}$		-	600	-	
Fall time	t_f		-	130	-	
Turn-on energy	E_{on}		-	6.4	-	mJ
Turn-off energy	E_{off}		-	9.4	-	
Total switching energy	E_{ts}		-	15.8	-	

[2)] Leakage inductance L_σ and Stray capacity C_σ due to dynamic test circuit in Figure E.

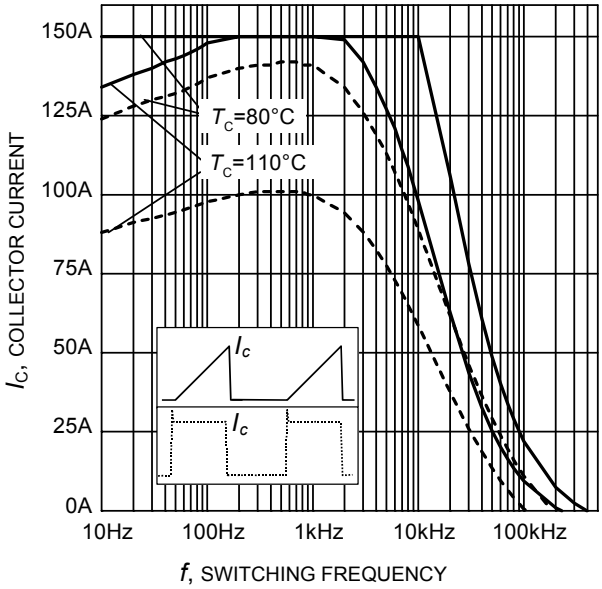

Figure 1. Collector current as a function of switching frequency
($T_j \le 150°C$, $D = 0.5$, $V_{CE} = 600V$, $V_{GE} = 0/+15V$, $R_G = 10\Omega$)

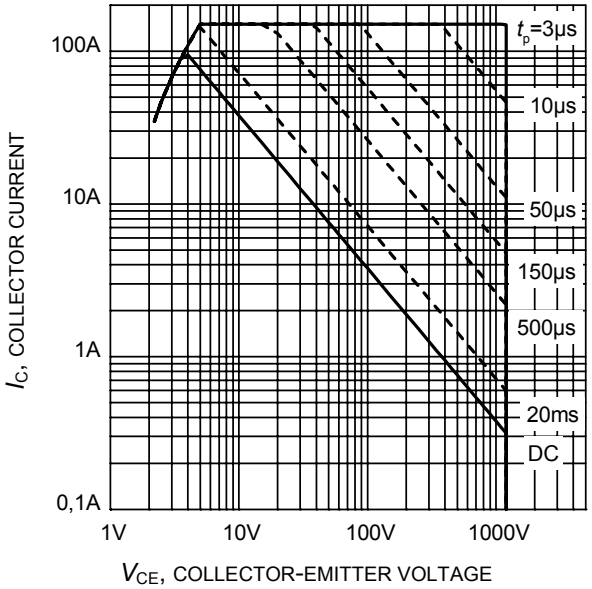

Figure 2. Safe operating area
($D = 0$, $T_C = 25°C$, $T_j \le 150°C$; V_{GE}=15V)

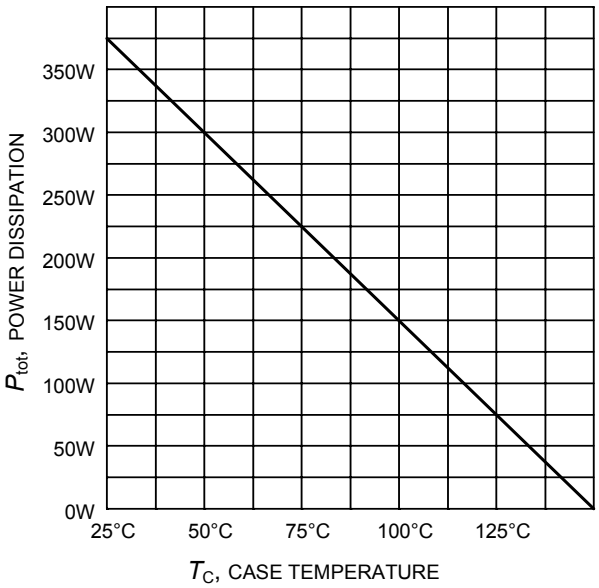

Figure 3. Power dissipation as a function of case temperature
($T_j \le 150°C$)

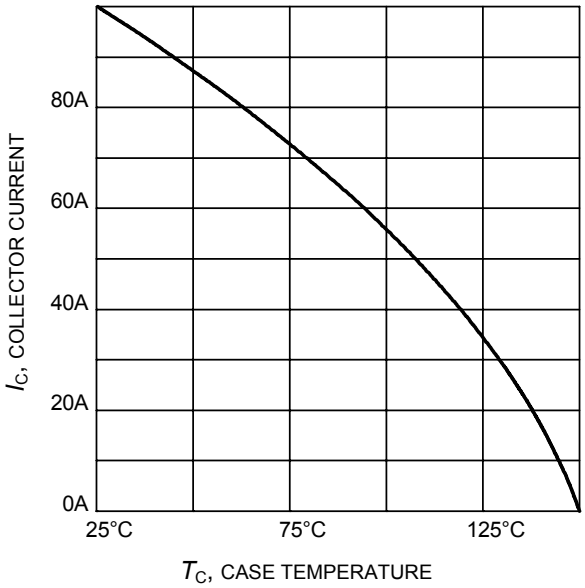

Figure 4. Collector current as a function of case temperature
($V_{GE} \ge 15V$, $T_j \le 150°C$)