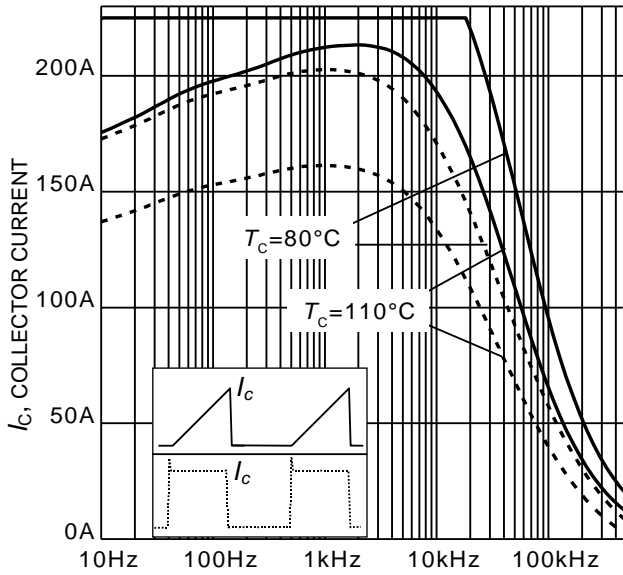


Switching Characteristic, Inductive Load, at $T_j=25\text{ °C}$

Parameter	Symbol	Conditions	Value			Unit
			min.	Typ.	max.	
IGBT Characteristic						
Turn-on delay time	$t_{d(on)}$	$T_j=25\text{ °C}$, $V_{CC}=400\text{V}$, $I_C=75\text{A}$, $V_{GE}=0/15\text{V}$, $r_G=5\Omega$, $L_\sigma=100\text{nH}$, $C_\sigma=39\text{pF}$	-	33	-	ns
Rise time	t_r		-	36	-	
Turn-off delay time	$t_{d(off)}$		-	330	-	
Fall time	t_f		-	35	-	
Turn-on energy ¹⁾	E_{on}	L_σ , C_σ from Fig. E Energy losses include "tail" and diode reverse recovery. Diode from IKW75N60T	-	2.0	-	mJ
Turn-off energy	E_{off}		-	2.5	-	
Total switching energy	E_{ts}		-	4.5	-	

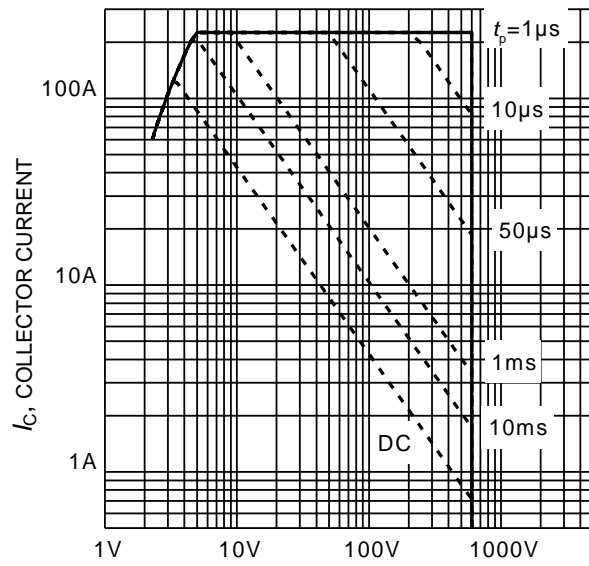
Switching Characteristic, Inductive Load, at $T_j=175\text{ °C}$

Parameter	Symbol	Conditions	Value			Unit
			min.	Typ.	max.	
IGBT Characteristic						
Turn-on delay time	$t_{d(on)}$	$T_j=175\text{ °C}$, $V_{CC}=400\text{V}$, $I_C=75\text{A}$, $V_{GE}=0/15\text{V}$, $r_G=5\Omega$, $L_\sigma=100\text{nH}$, $C_\sigma=39\text{pF}$	-	32	-	ns
Rise time	t_r		-	37	-	
Turn-off delay time	$t_{d(off)}$		-	363	-	
Fall time	t_f		-	38	-	
Turn-on energy ¹⁾	E_{on}	L_σ , C_σ from Fig. E Energy losses include "tail" and diode reverse recovery. Diode from IKW75N60T	-	2.9	-	mJ
Turn-off energy	E_{off}		-	2.9	-	
Total switching energy	E_{ts}		-	5.8	-	



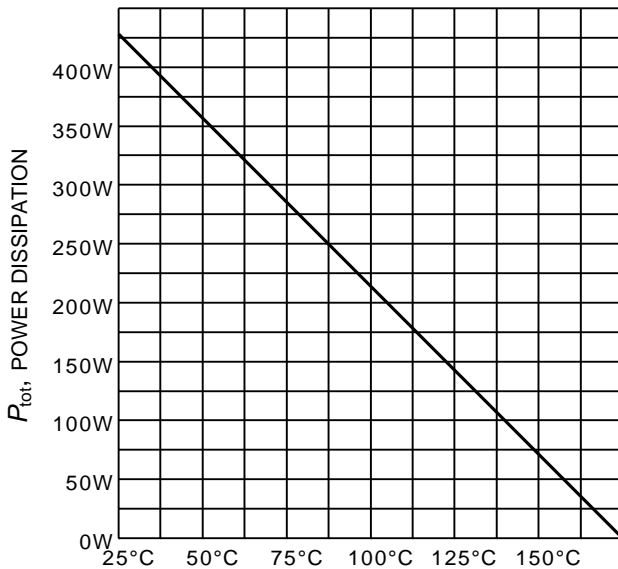
f , SWITCHING FREQUENCY

Figure 1. Collector current as a function of switching frequency
 ($T_j \leq 175^\circ\text{C}$, $D = 0.5$, $V_{CE} = 400\text{V}$,
 $V_{GE} = 0/15\text{V}$, $r_G = 5\Omega$)



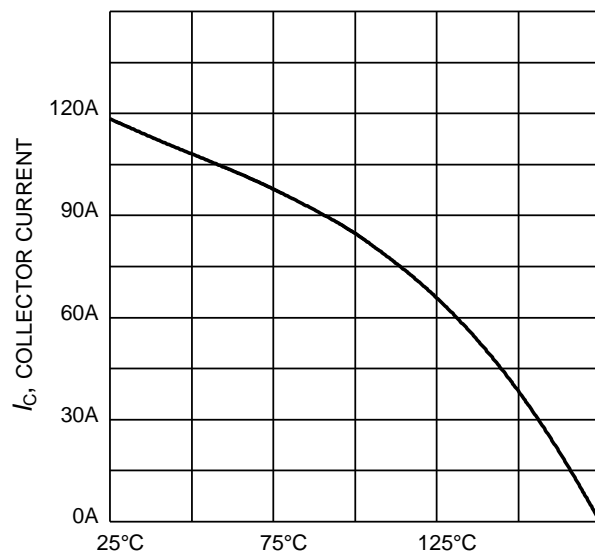
V_{CE} , COLLECTOR-EMITTER VOLTAGE

Figure 2. Safe operating area
 ($D = 0$, $T_C = 25^\circ\text{C}$, $T_j \leq 175^\circ\text{C}$;
 $V_{GE} = 0/15\text{V}$)



T_C , CASE TEMPERATURE

Figure 3. Power dissipation as a function of case temperature
 ($T_j \leq 175^\circ\text{C}$)



T_C , CASE TEMPERATURE

Figure 4. DC Collector current as a function of case temperature
 ($V_{GE} \geq 15\text{V}$, $T_j \leq 175^\circ\text{C}$)