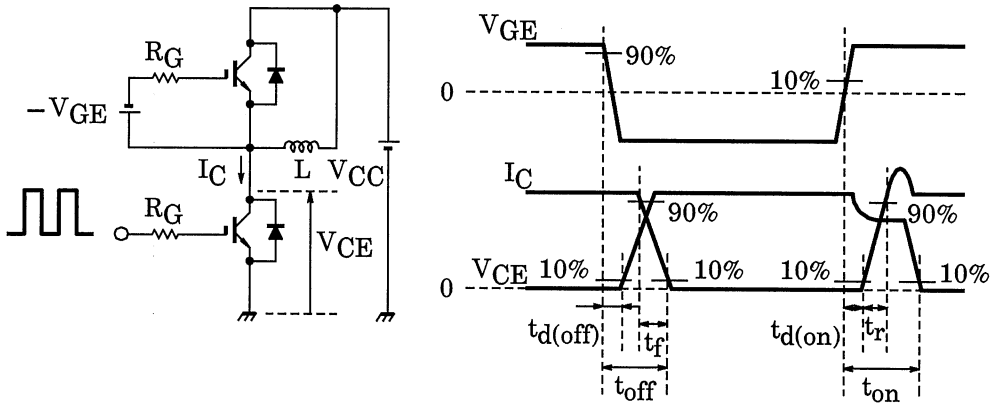
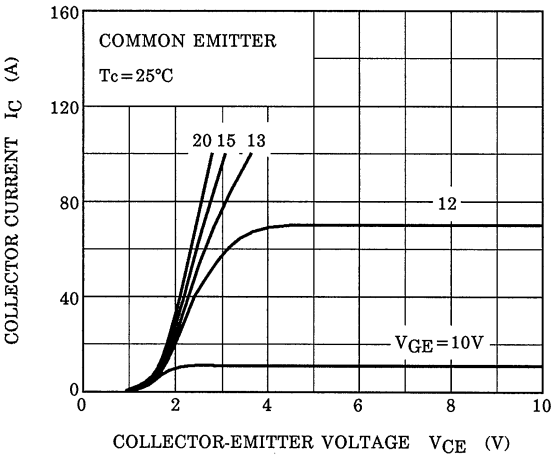
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Gate Leakage Current		I_{GES}	V_{GE} = ±20V, V_{CE} = 0	—	—	±500	nA
Collector−Off Current		I_{CES}	V_{CE} = 600V, V_{GE} = 0	—	—	1.0	mA
Gate−Emitter Cut−off Voltage		$V_{GE(OFF)}$	I_C = 5mA, V_{CE} = 5V	5.0	7.0	8.0	V
Collector−Emitter Saturation Voltage		$V_{CE(sat)}$	I_C = 50A, V_{GE} = 15V	—	2.1	2.7	V
Input Capacitance		C_{ies}	V_{CE} = 10V, V_{GE} = 0 f = 1MHz	—	4500	—	pF
Switching Time	Turn−on delayTime	$t_{d(on)}$	Inductive Load V_{CC} = 300V V_{GE} = ±15V I_C = 50A R_G = 24Ω (Note 1)	—	0.08	—	μs
	Rise Time	t_r		—	0.12	—	
	Turn−on Time	t_{on}		—	0.40	—	
	Turn−off delay Time	$t_{d(off)}$		—	0.20	—	
	Fall Time	t_f		—	0.15	0.30	
	Turn−off Time	t_{off}		—	0.50	—	
Thermal Resistance		$R_{th(j-c)}$		—	—	0.625	V

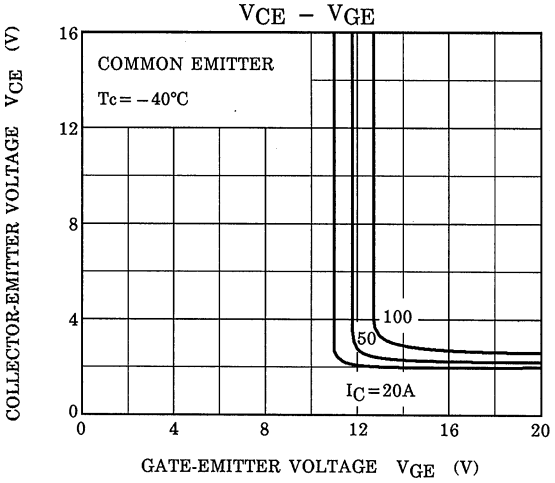
Note 1: Switching. time measurement circuit and input / output waveforms



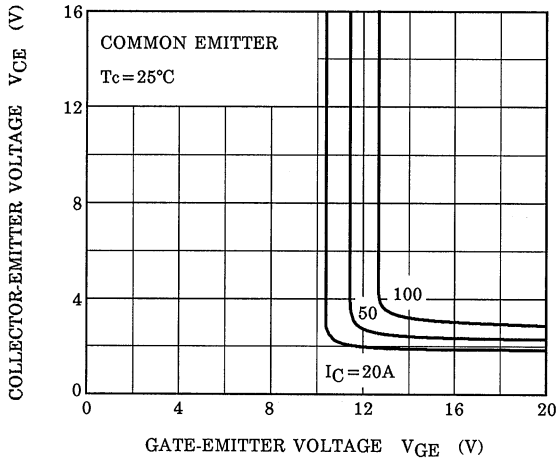
I_C – V_{CE}



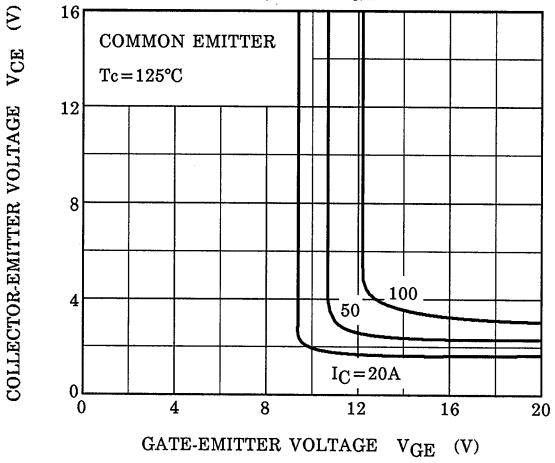
V_{CE} – V_{GE}



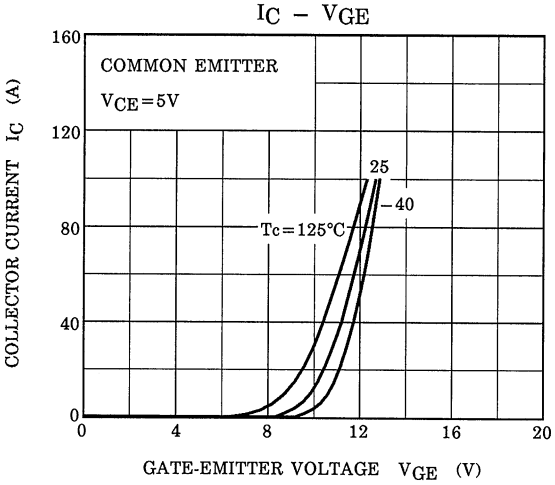
V_{CE} – V_{GE}



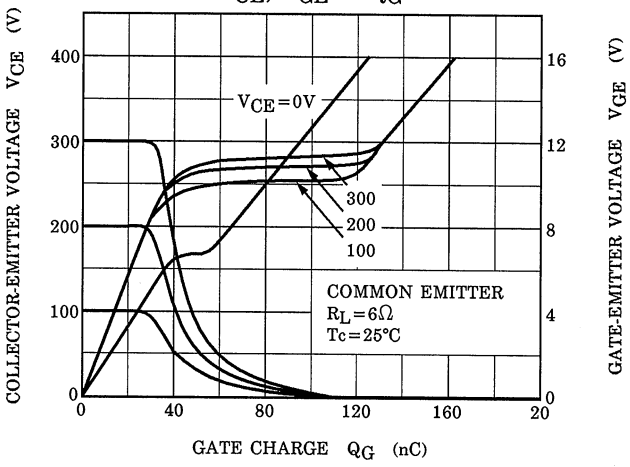
V_{CE} – V_{GE}



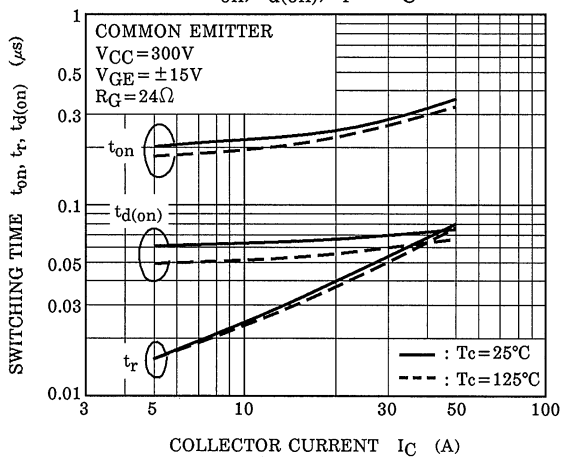
I_C – V_{GE}



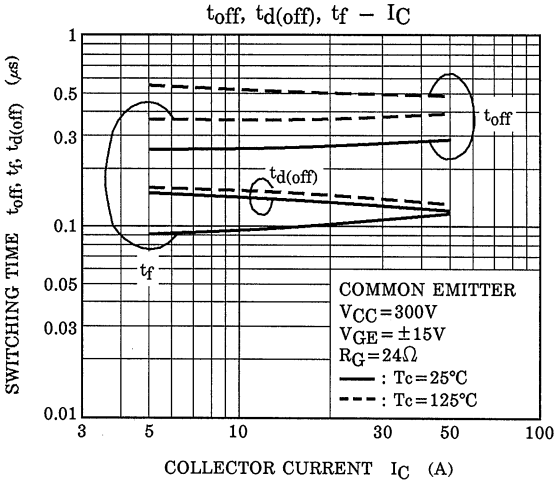
V_{CE}, V_{GE} – Q_G



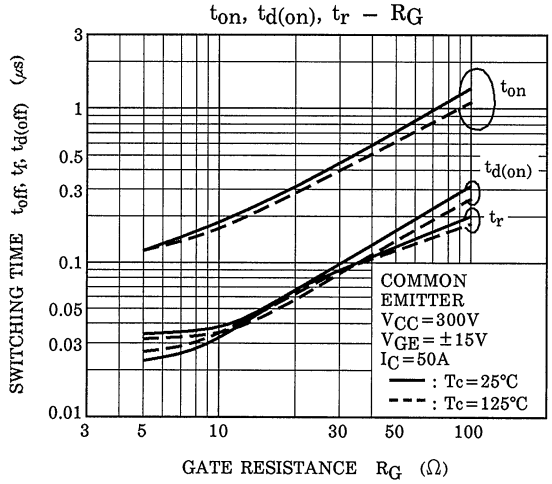
t_{on}, $t_{d(on)}$, t_r – I_C



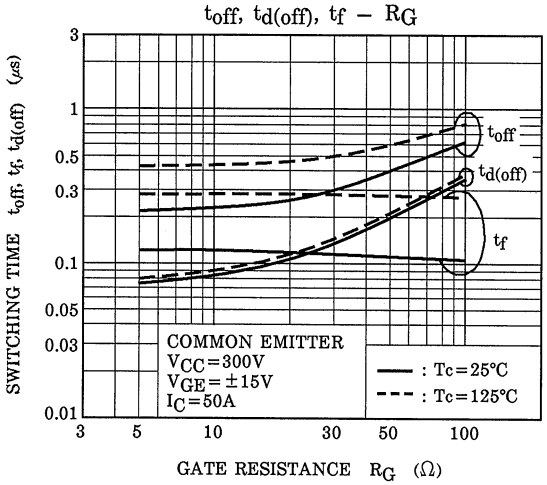
t_{off}, $t_{d(off)}$, t_f – I_C



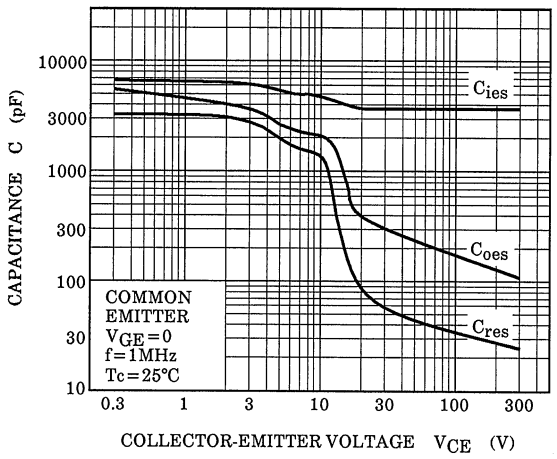
t_{on}, $t_{d(on)}$, t_r – R_G



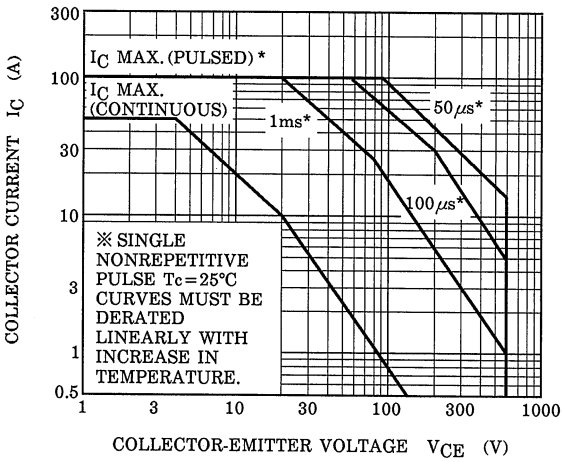
t_{off}, $t_{d(off)}$, t_f – R_G

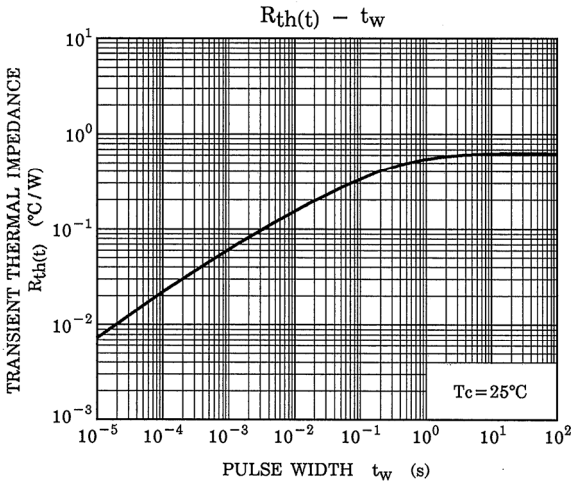


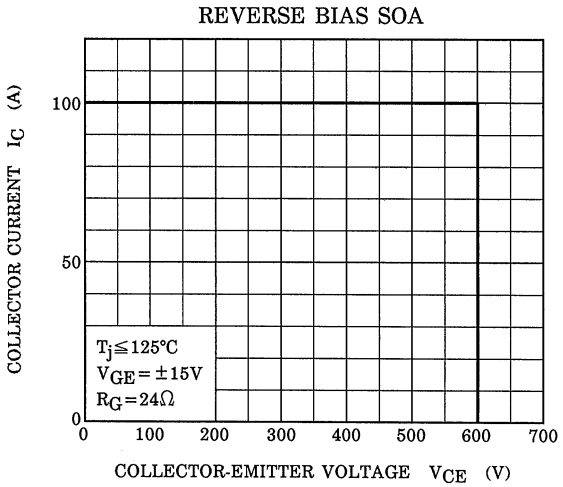
C – V_{CE}



SAFE OPERATING AREA







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