

GT40G121

The 4th Generation

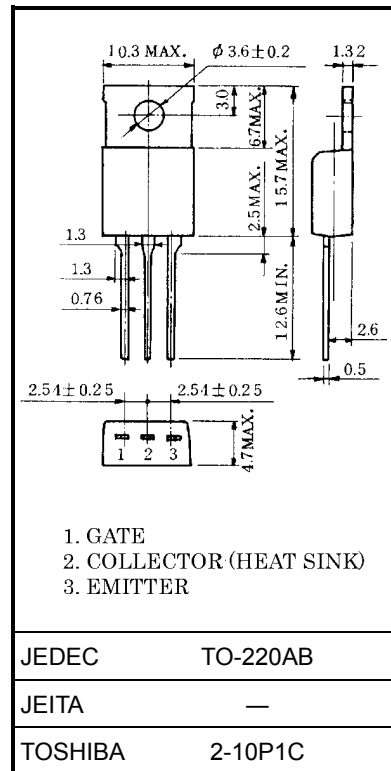
Current Resonance Inverter Switching Applications

Unit: mm

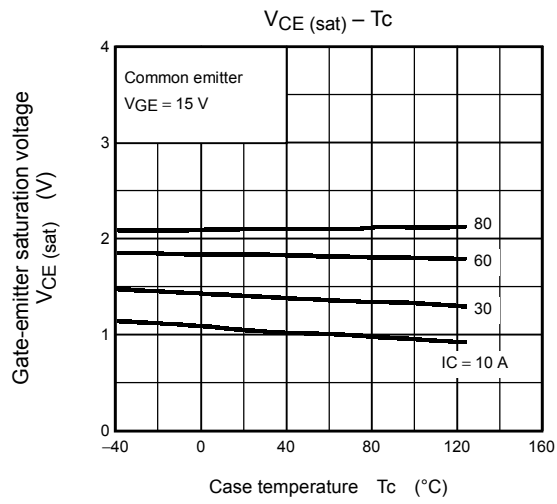
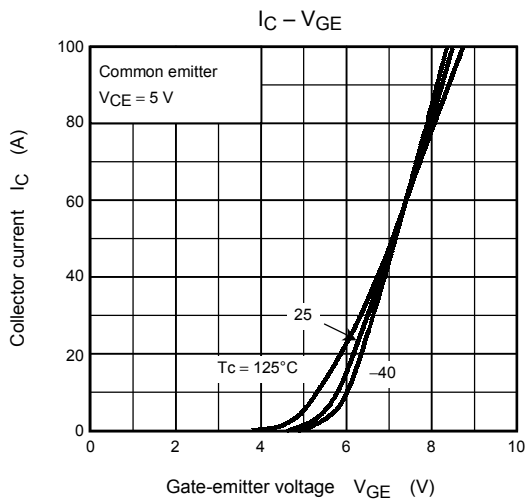
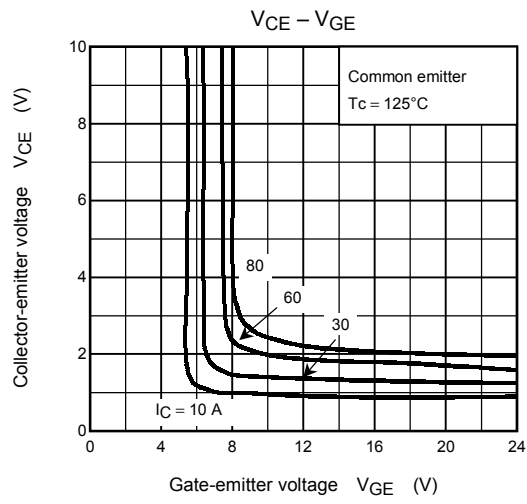
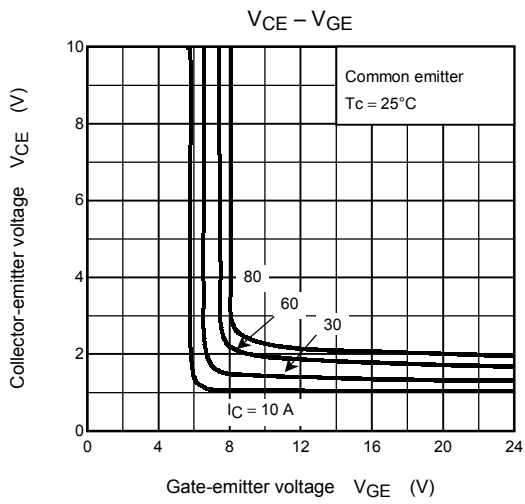
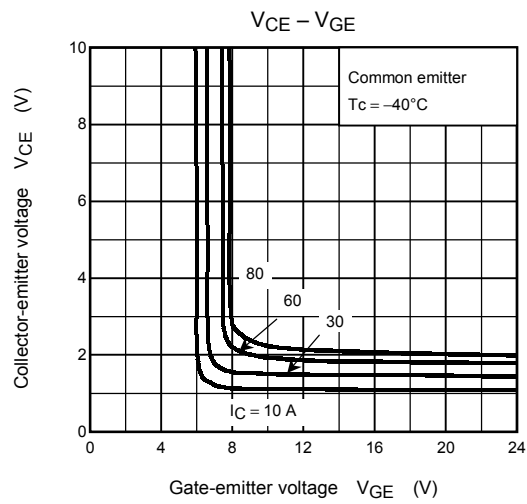
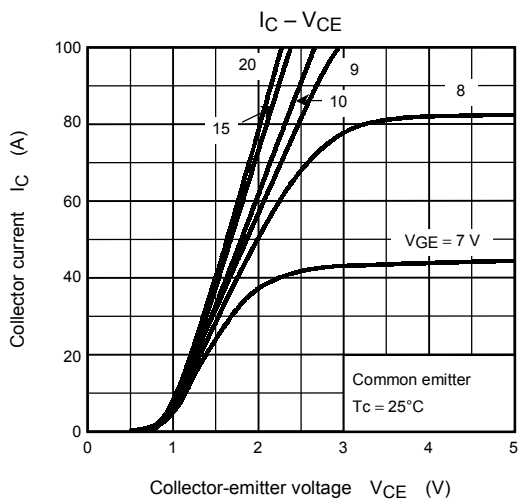
- Enhancement-mode
- High speed: $t_f = 0.30 \mu s$ (typ.) ($I_C = 60 A$)
- Low saturation voltage: $V_{CE(sat)} = 1.8 V$ (typ.) ($I_C = 60 A$)

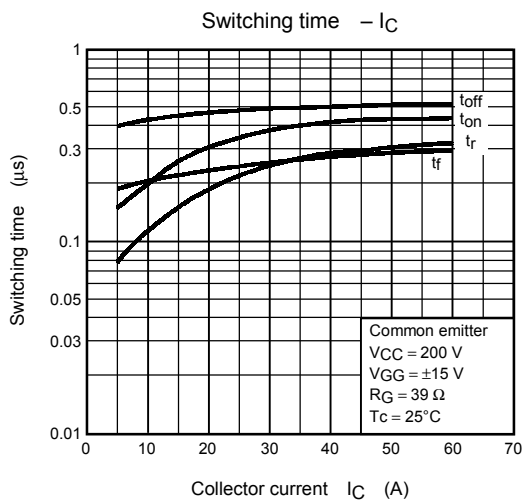
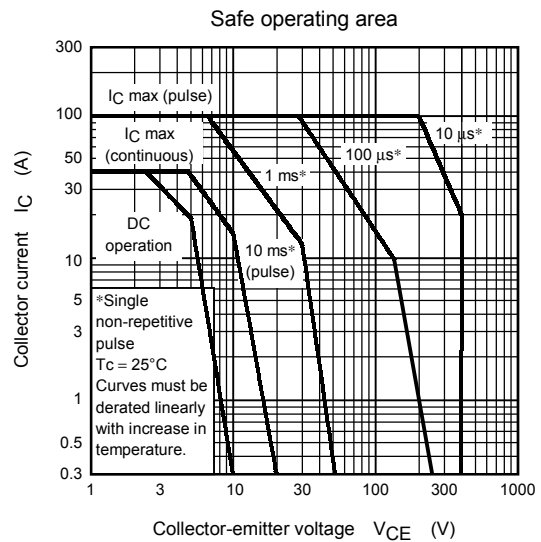
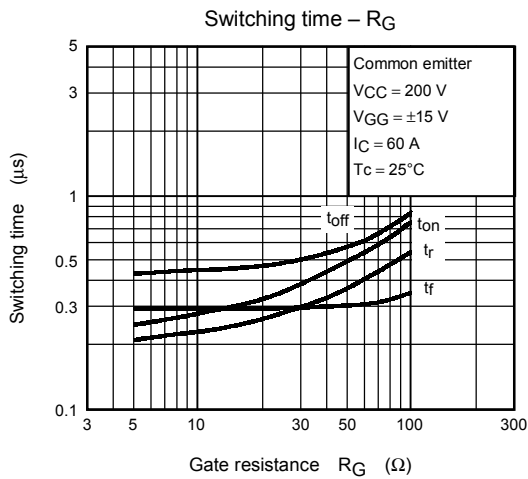
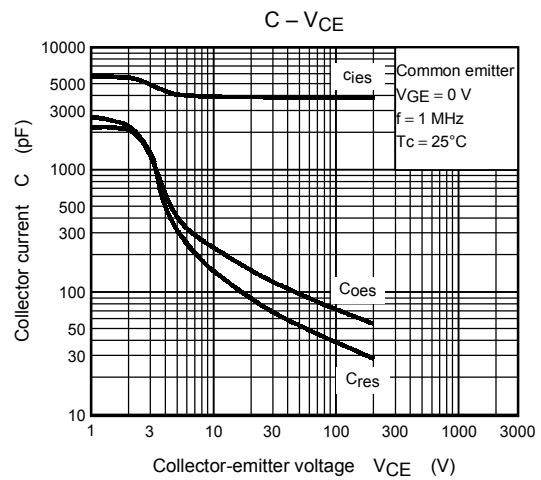
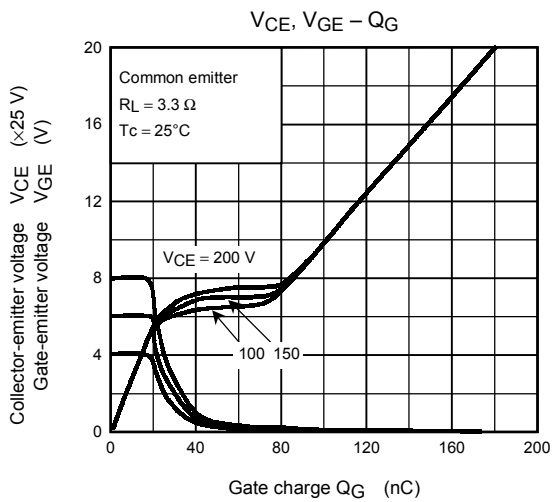
Maximum Ratings ($T_a = 25^\circ C$)

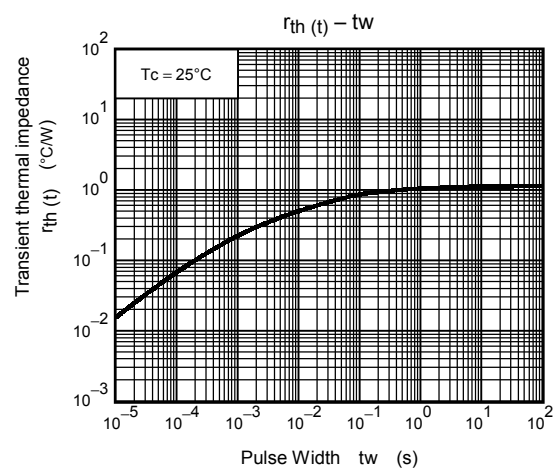
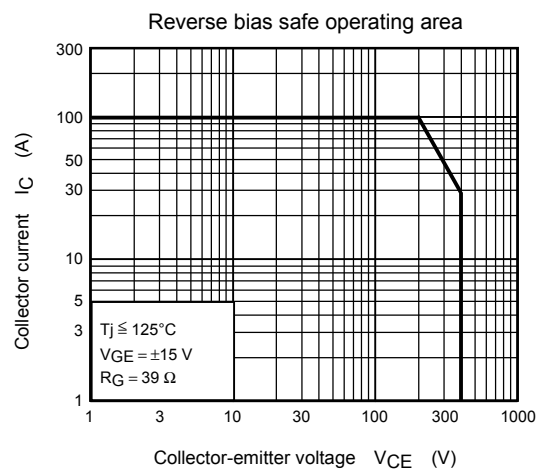
Characteristics		Symbol	Rating	Unit
Collector-emitter voltage		V_{CES}	400	V
Gate-emitter voltage		V_{GES}	± 25	V
Collector current	DC	I_C	40	A
	1 ms	I_{CP}	100	
Collector power dissipation ($T_c = 25^\circ C$)		P_C	100	W
Junction temperature		T_j	150	$^\circ C$
Storage temperature range		T_{stg}	$-55 \sim 150$	$^\circ C$

Electrical Characteristics ($T_a = 25^\circ C$)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		I_{GES}	$V_{GE} = \pm 25 V, V_{CE} = 0$	—	—	± 500	nA
Collector cut-off current		I_{CES}	$V_{CE} = 400 V, V_{GE} = 0$	—	—	1.0	mA
Gate-emitter cut-off voltage		$V_{GE(OFF)}$	$I_C = 60 mA, V_{CE} = 5 V$	3.0	—	6.0	V
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 60 A, V_{GE} = 15 V$	—	1.8	2.5	V
Input capacitance		C_{ies}	$V_{CE} = 10 V, V_{GE} = 0, f = 1 MHz$	—	3900	—	pF
Switching time	Rise time	t_r		—	0.33	—	μs
	Turn-on time	t_{on}		—	0.43	—	
	Fall time	t_f		—	0.30	0.40	
	Turn-off time	t_{off}		—	0.54	—	
Thermal resistance		$R_{th(j-c)}$	—	—	—	1.25	$^\circ C/W$







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