TOSHIBA GTR Module Silicon N Channel IGBT

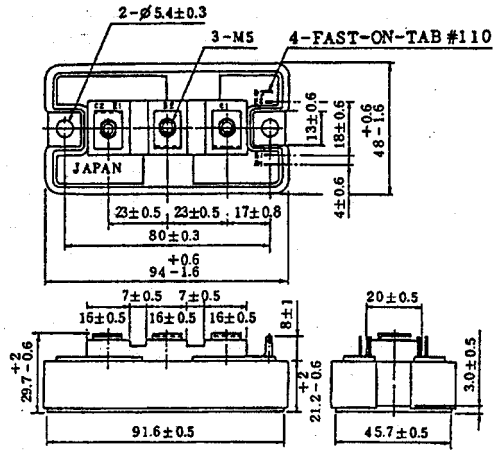
MG150J2YS50

High Power Switching Applications

Motor Control Applications

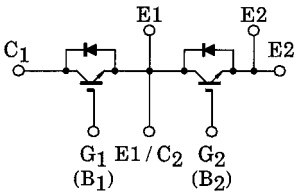
- The electrodes are isolated from case
- High input impedance
- Includes a complete half bridge in one package
- Enhancement-mode
- High speed : t_f = 0.30μs (Max) (I_C = 150A)
  t_{rr} = 0.15μs (Max) (I_F = 150A)
- Low saturation voltage : $V_{CE\ (sat)}$ = 2.70V (Max) (I_C = 150A)

Unit: mm



JEDEC	—
EIAJ	—
TOSHIBA	2-95A1A

Equivalent Circuit

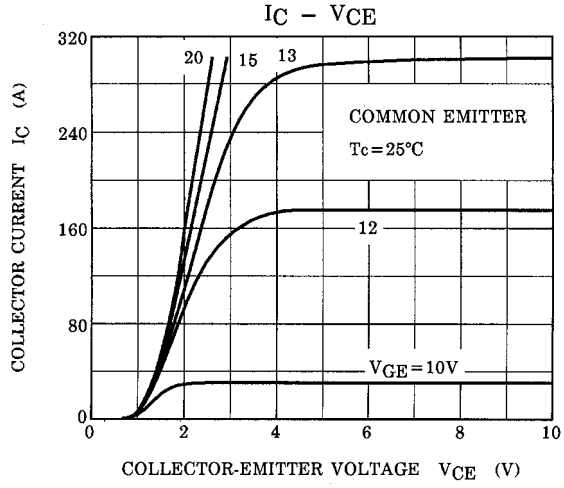


Maximum Ratings (Ta = 25°C)

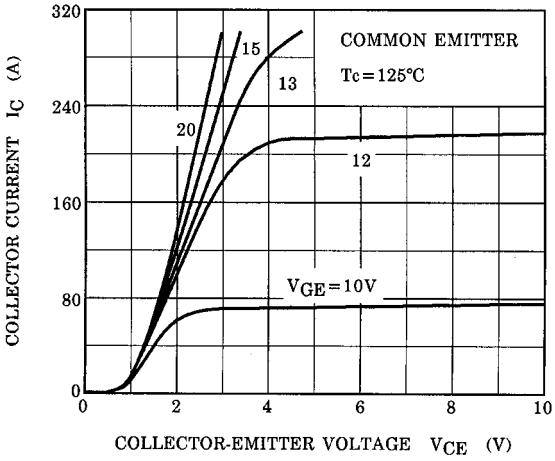
Characteristic		Symbol	Rating	Unit
Collector-emitter voltage		V_{CES}	600	V
Gate-emitter voltage		V_{GES}	±20	V
Collector current	DC	I_C	150	A
	1ms	I_{CP}	300	
Forward current	DC	I_F	150	A
	1ms	I_{FM}	300	
Collector power dissipation (Tc = 25°C)		P_C	780	W
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−40 ~ 125	°C
Isolation voltage		V_{Isol}	2500 (AC 1 min.)	V
Screw torque (Terminal / mounting)		—	3 / 3	N·m

000707EAA2

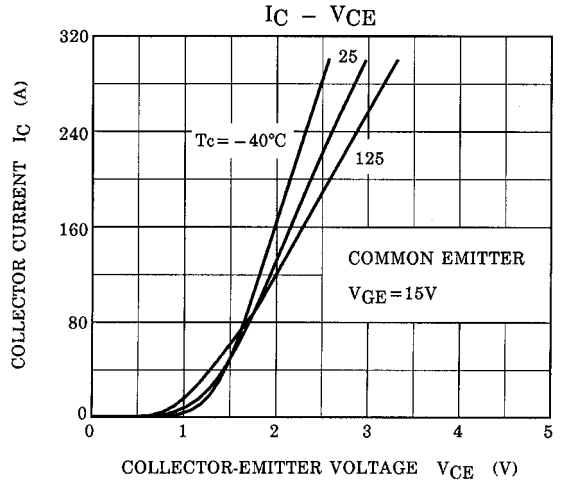
I_C – V_{CE}



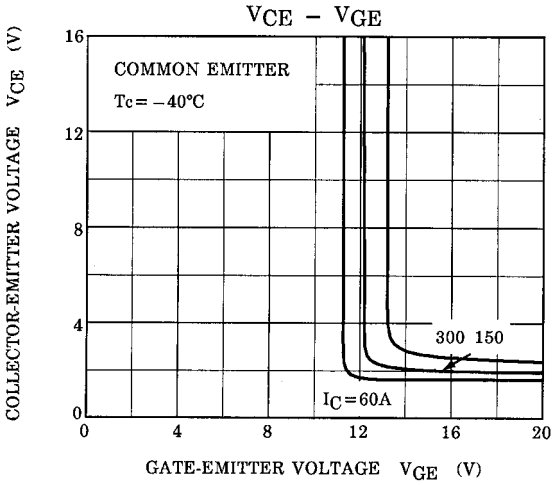
I_C – V_{CE}



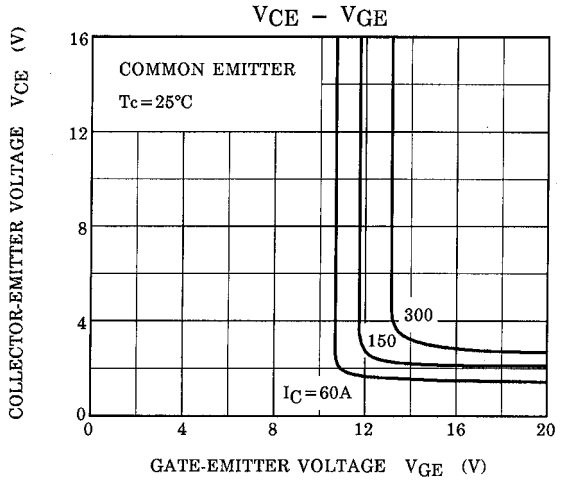
I_C – V_{CE}



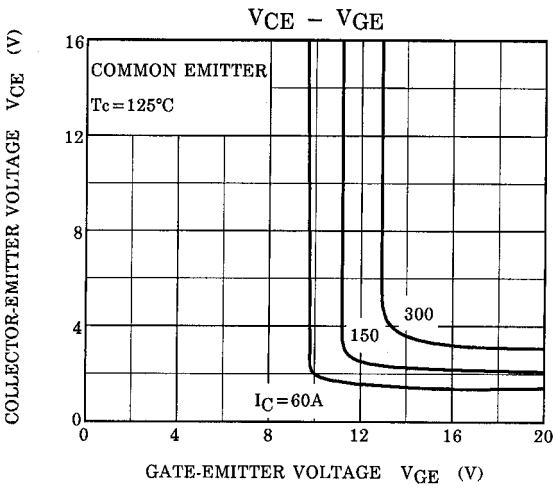
V_{CE} – V_{GE}



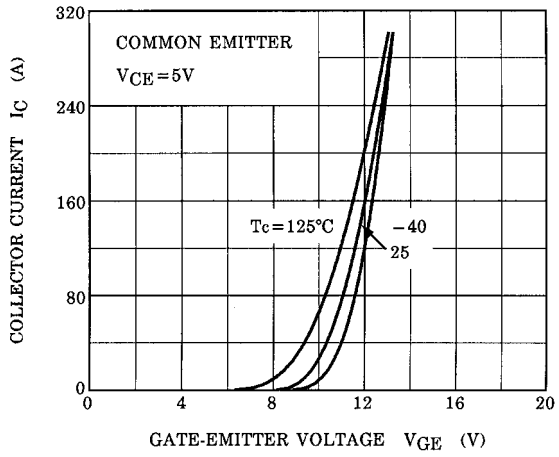
V_{CE} – V_{GE}



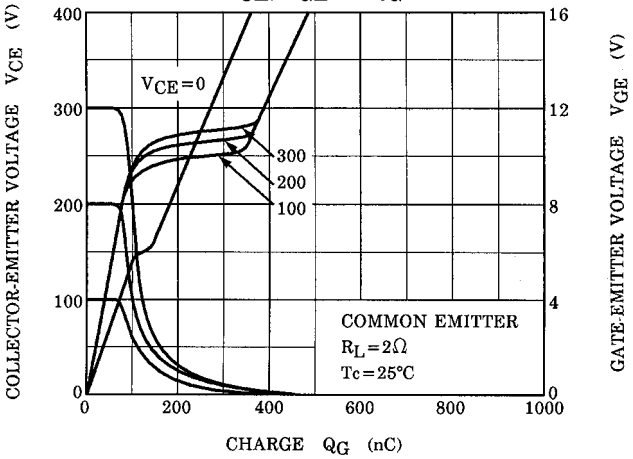
V_{CE} – V_{GE}



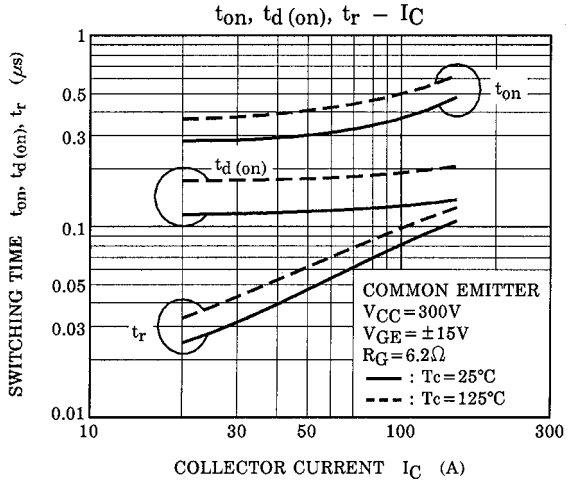
I_C – V_{GE}



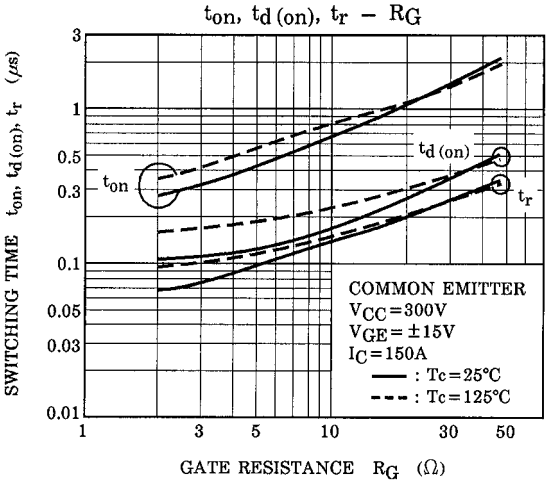
V_{CE}, V_{GE} – Q_G



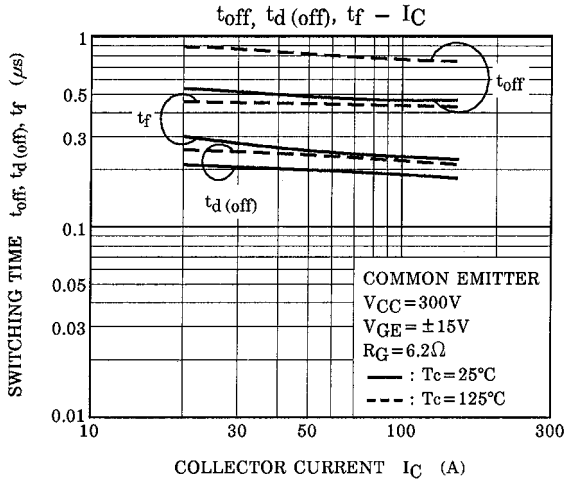
t_{on}, t_d (on), t_r – I_C



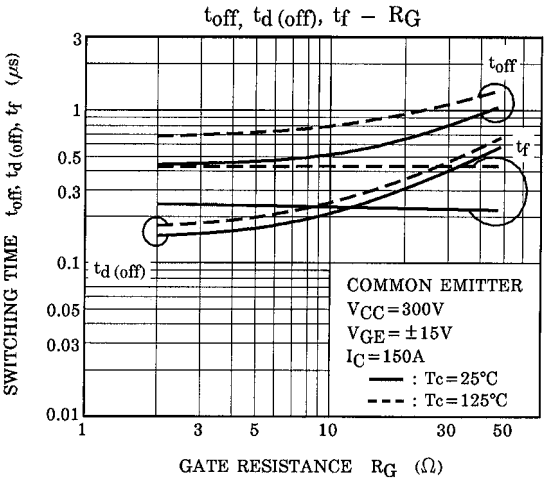
t_{on}, t_d (on), t_r – R_G



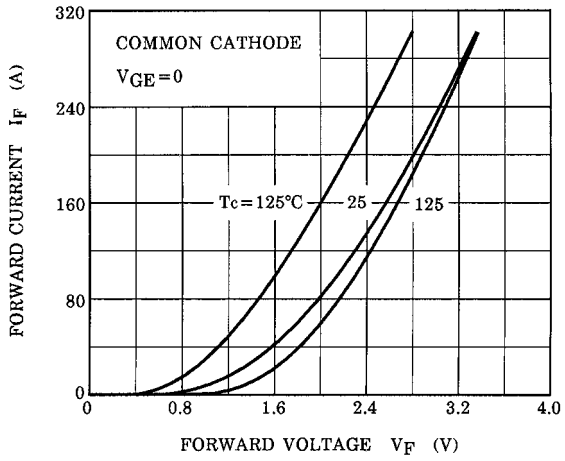
t_{off}, t_d (off), t_f – I_C



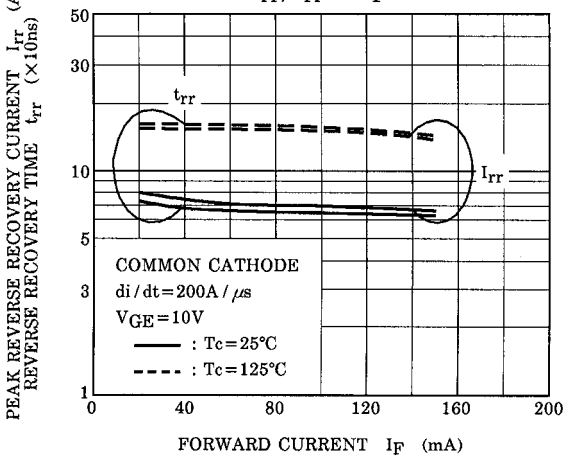
t_{off}, t_d (off), t_f – R_G



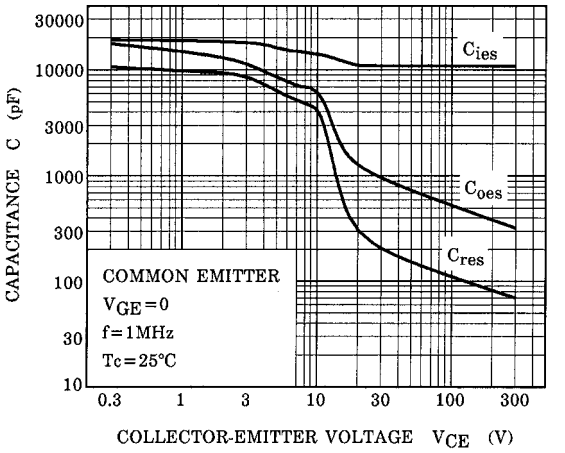
I_F – V_F



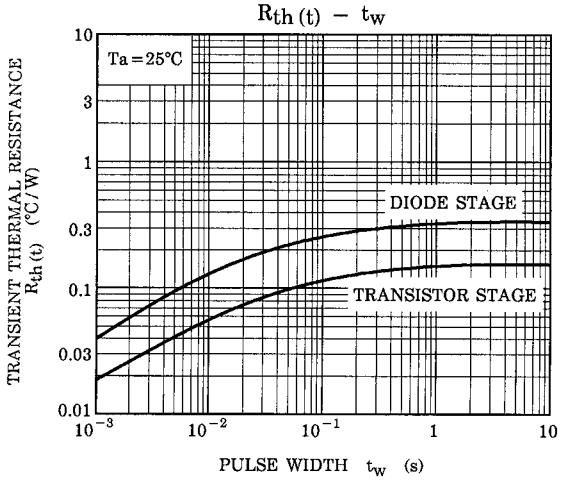
t_{rr}, I_{rr} – I_F



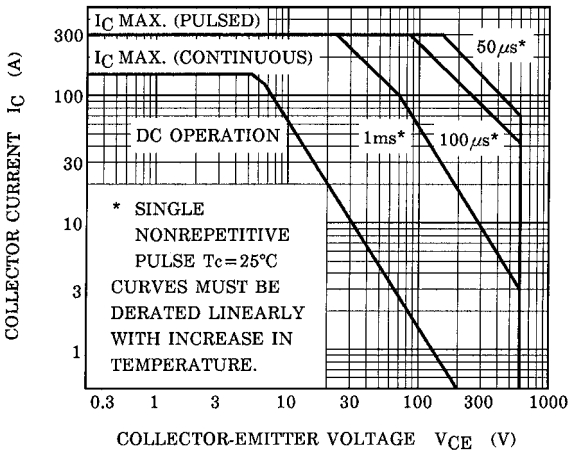
C – V_{CE}



R_{th} (t) – t_w



SAFE OPERATING AREA



REVERSE BIAS SOA