

# GT30J122

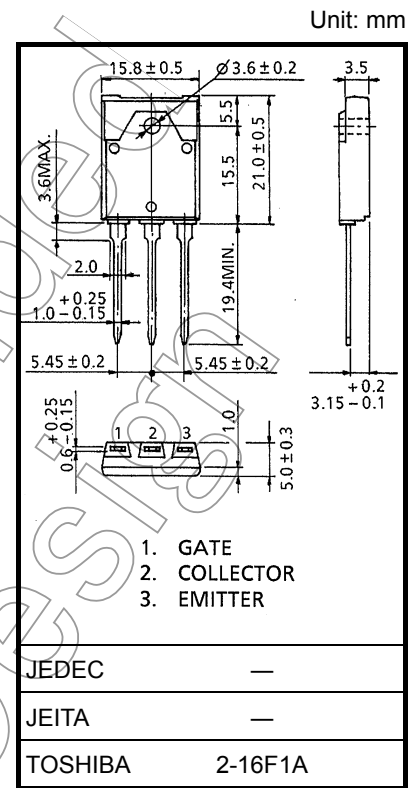
4TH GENERATION IGBT

CURRENT RESONANCE INVERTER SWITCHING APPLICATIONS

- Enhancement mode type
- High speed:  $t_f = 0.25\mu s$  (Typ.) ( $I_C = 50A$ )
- Low saturation voltage:  $V_{CE(sat)} = 2.1V$  (Typ.) ( $I_C = 50A$ )

**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ C$ )**

Characteristic		Symbol	Rating	Unit
Collector-emitter voltage		$V_{CES}$	600	V
Gate-emitter voltage		$V_{GES}$	$\pm 20$	V
Collector current	DC	$I_C$	30	A
	1 ms	$I_{CP}$	100	
Collector power dissipation ( $T_c = 25^\circ C$ )		$P_C$	75	W
Junction temperature		$T_j$	150	$^\circ C$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ C$

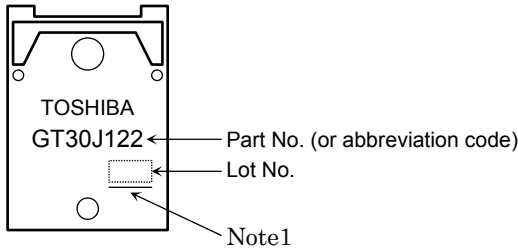


Weight: 5.8 g (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Not for New

## MARKING



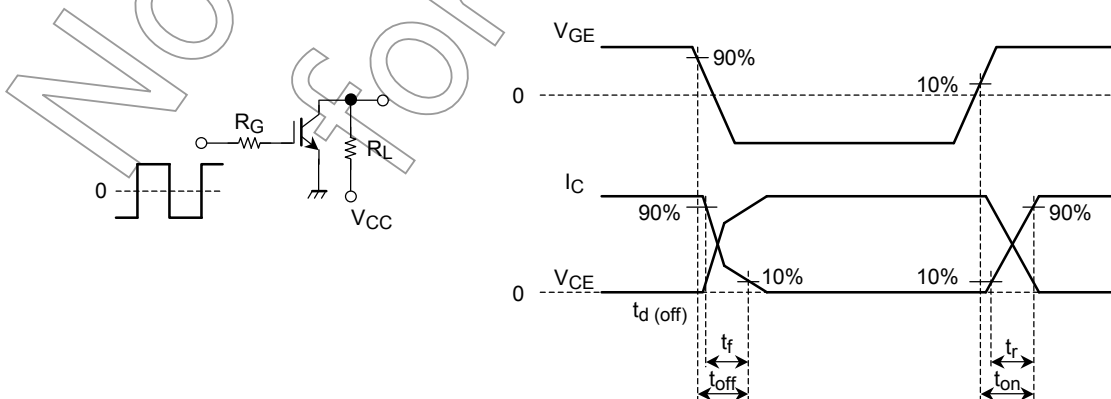
Note1: A line under a Lot No. identifies the indication of product Labels.  
 [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

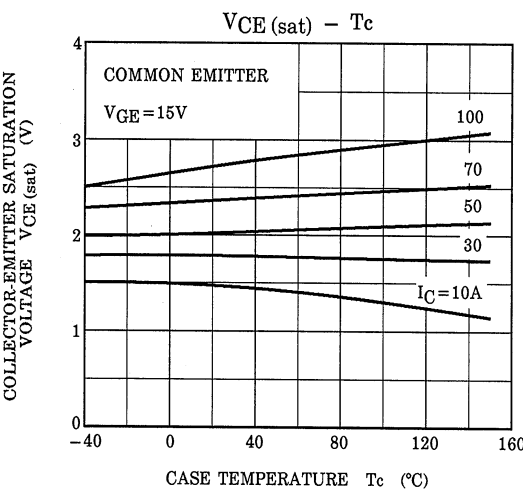
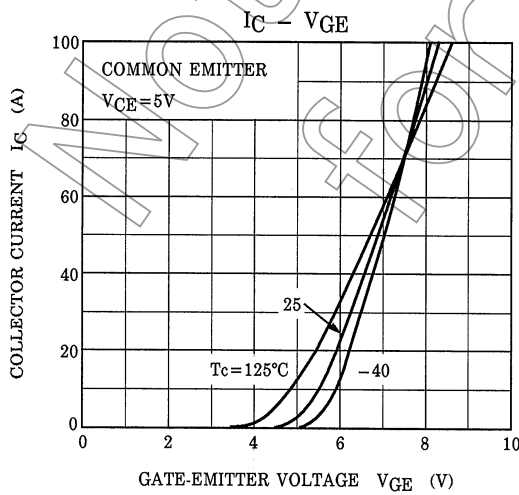
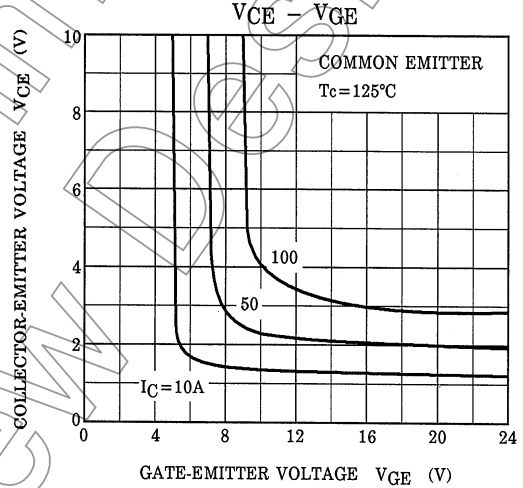
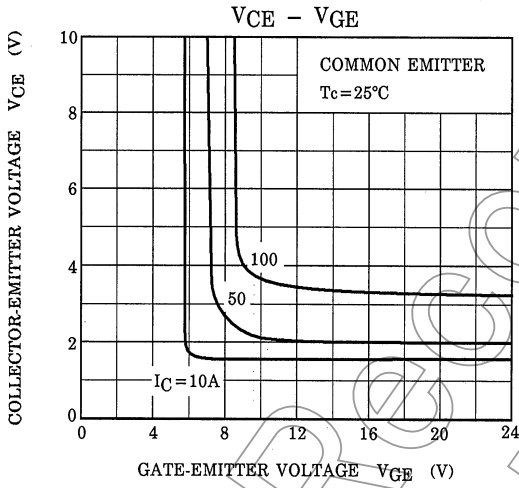
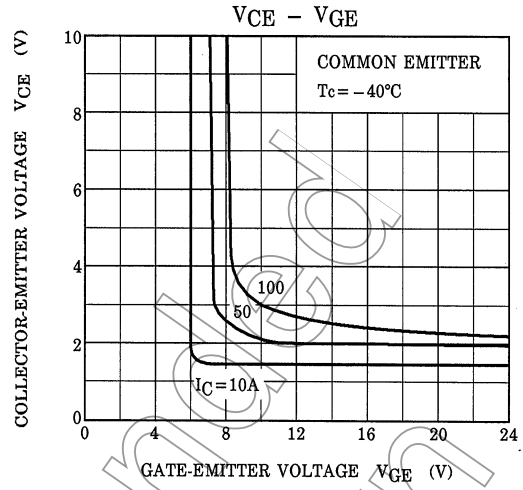
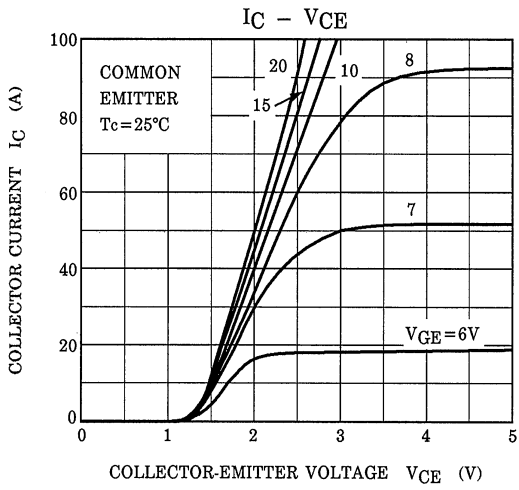
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 The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

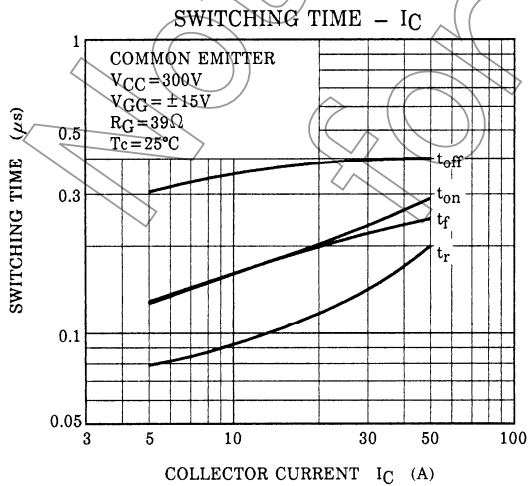
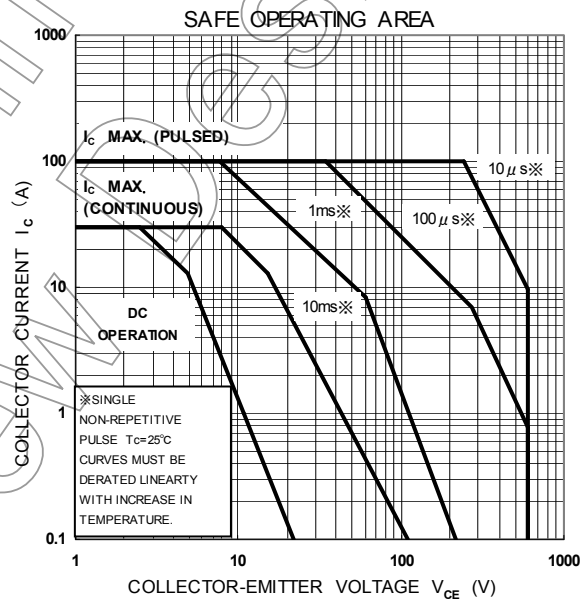
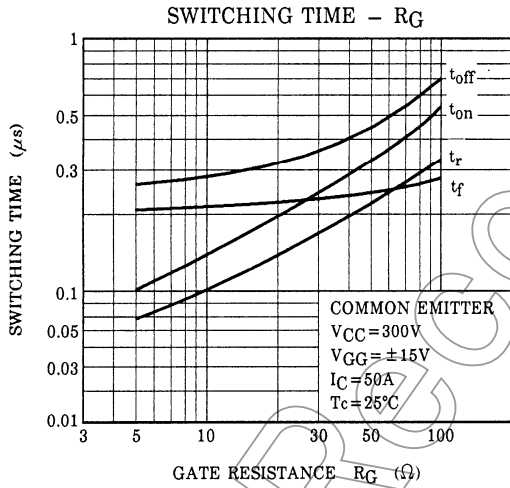
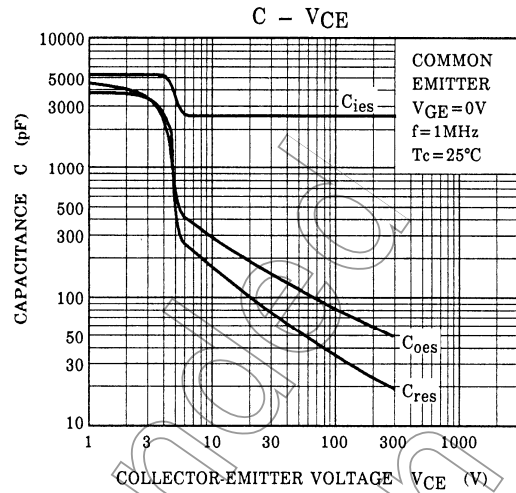
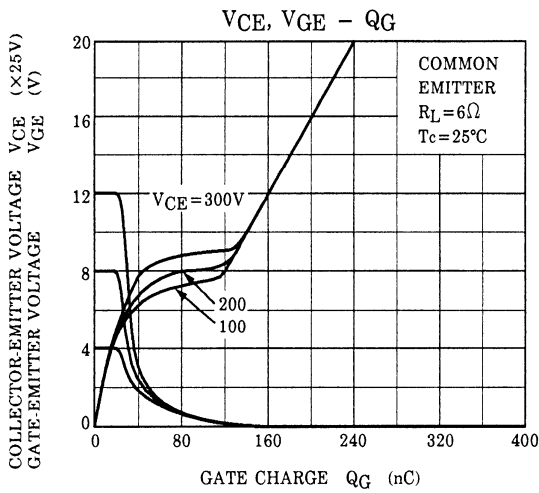
## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

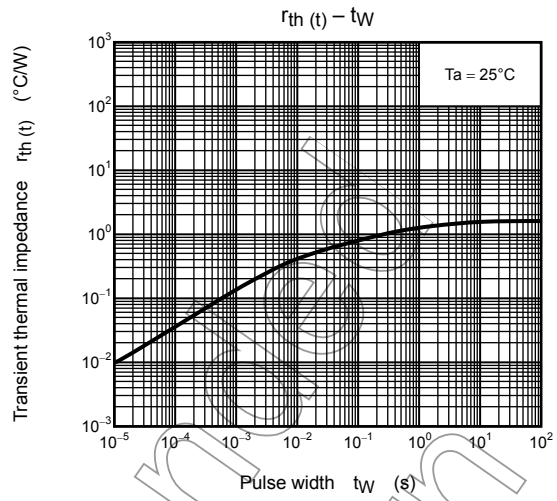
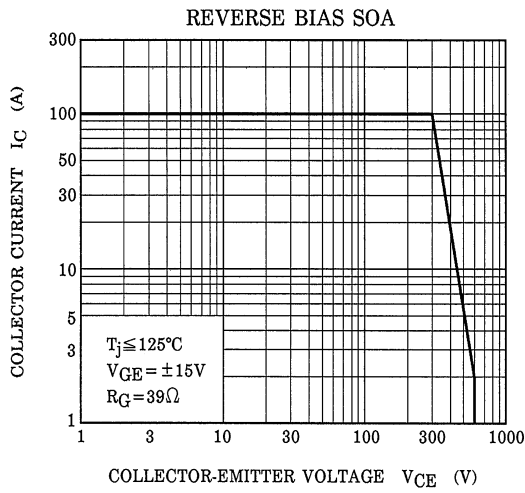
Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		$I_{GES}$	$V_{GE} = \pm 20\text{ V}, V_{CE} = 0$	—	—	$\pm 500$	nA
Collector cut-off current		$I_{CES}$	$V_{CE} = 600\text{ V}, V_{GE} = 0$	—	—	1.0	mA
Gate-emitter cut-off voltage		$V_{GE(OFF)}$	$I_C = 50\text{ mA}, V_{CE} = 5\text{ V}$	3.0	—	6.0	V
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 50\text{ A}, V_{GE} = 15\text{ V}$	—	2.1	2.8	V
Input capacitance		$C_{ies}$	$V_{CE} = 10\text{ V}, V_{GE} = 0, f = 1\text{ MHz}$	—	2500	—	pF
Switching time	Rise time	$t_r$		—	0.20	—	$\mu\text{s}$
	Turn-on time	$t_{on}$		—	0.30	—	
	Fall time	$t_f$		—	0.25	0.40	
	Turn-off time	$t_{off}$		—	0.40	—	
Thermal resistance (IGBT)		$R_{th(j-c)}$	—	—	—	1.67	°C/W

Note2: Switching time measurement circuit and input/output waveforms









Not Recommended for New Design

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