

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC3474

Switching Applications

Solenoid Drive Applications

- High DC current gain: $h_{FE} = 500$ (min) ($I_C = 400$ mA)
- Low saturation voltage: $V_{CE(sat)} = 0.5$ V (max) ($I_C = 300$ mA)

Absolute Maximum Ratings (Ta = 25°C)

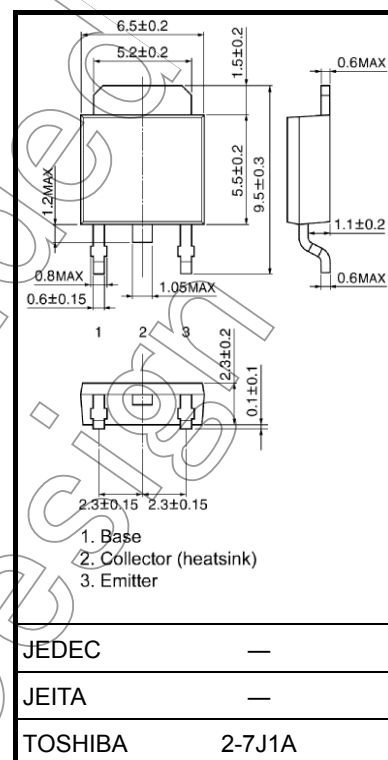
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CB0}	80	V
Collector-emitter voltage		V_{CEO}	80	V
Emitter-base voltage		V_{EB0}	7	V
Collector current		I_C	2	A
Base current		I_B	0.5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

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).

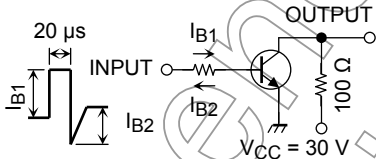
Industrial Applications

Unit: mm

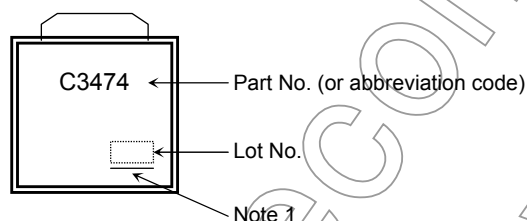


Weight: 0.36 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 80 \text{ V}, I_E = 0$	—	—	1	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 7 \text{ V}, I_C = 0$	—	—	1	μA
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	80	—	—	V
DC current gain		h_{FE}	$V_{CE} = 1 \text{ V}, I_C = 400 \text{ mA}$	500	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 300 \text{ mA}, I_B = 1 \text{ mA}$	—	0.3	0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 300 \text{ mA}, I_B = 1 \text{ mA}$	—	—	1.1	V
Transition frequency		f_T	$V_{CE} = 2 \text{ V}, I_C = 100 \text{ mA}$	—	85	—	MHz
Collector output capacitance		C_{ob}	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$	—	50	—	pF
Switching time	Turn-on time	t_{on}	 <p>$I_{B1} = -I_{B2} = 1 \text{ mA}$, DUTY CYCLE $\leq 1\%$</p>	—	2	—	μs
	Storage time	t_{stg}		—	5	—	
	Fall time	t_f		—	2	—	

Marking

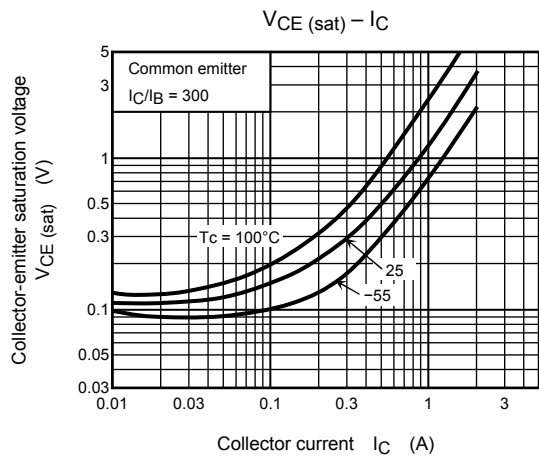
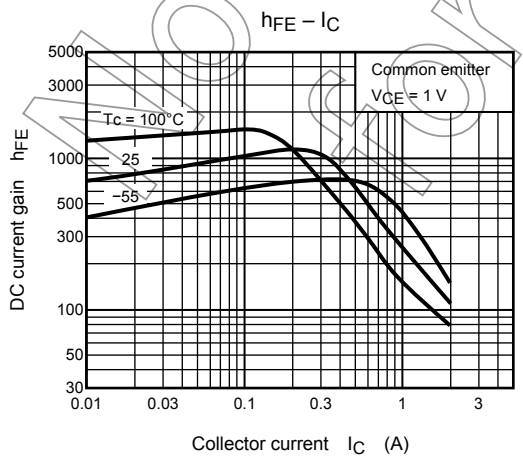
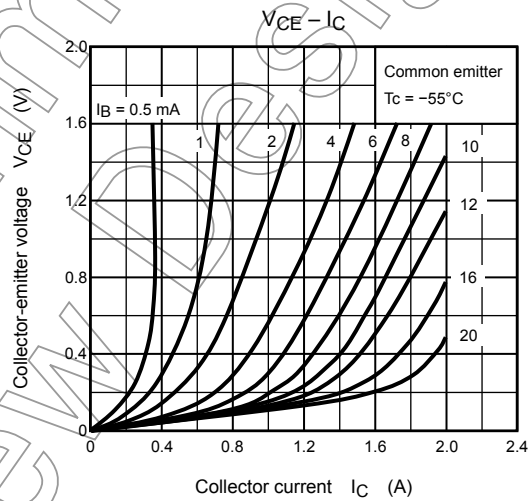
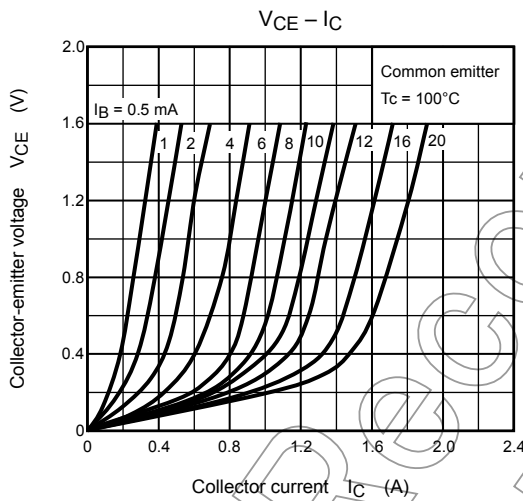
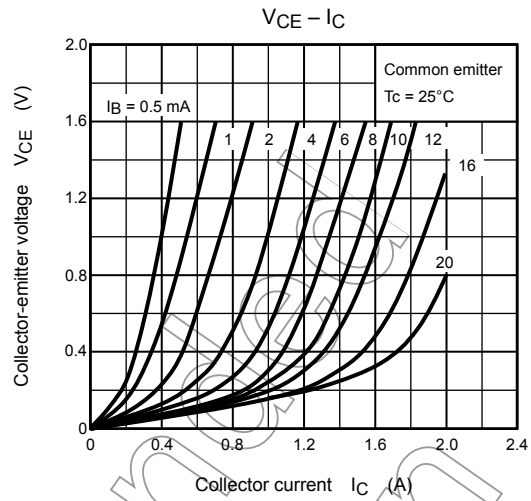
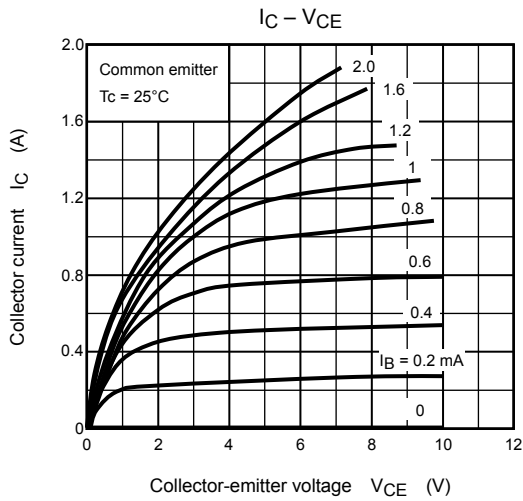


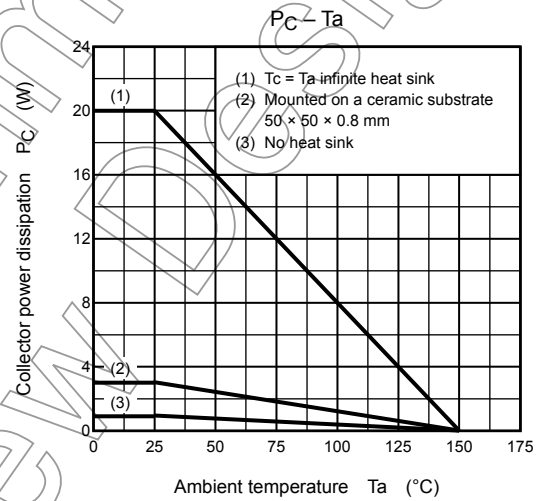
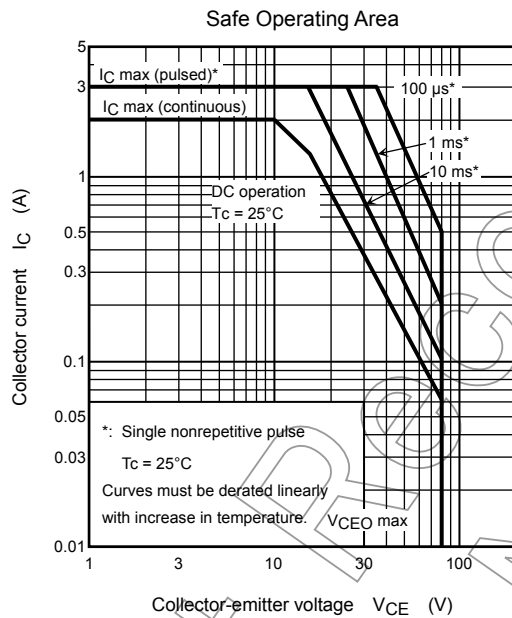
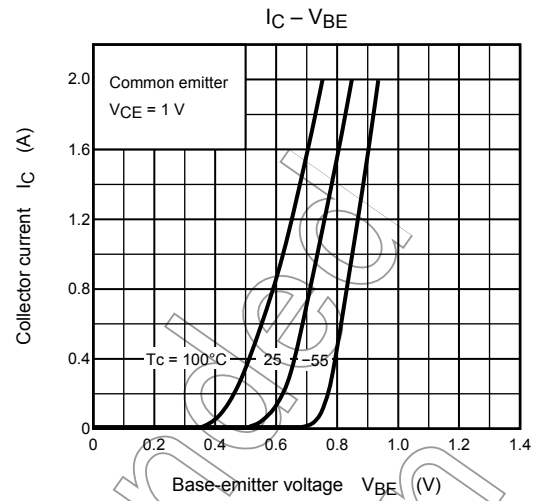
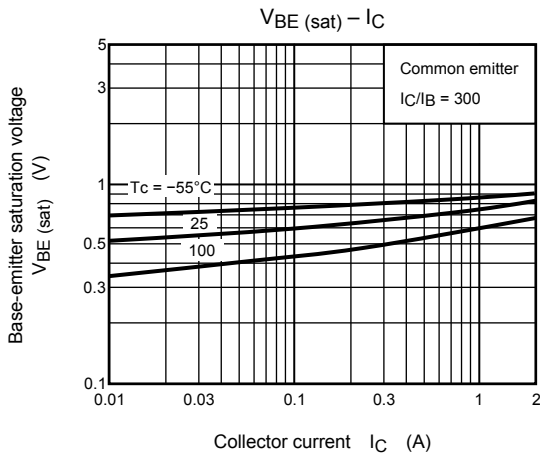
Note 1: A line under a Lot No. identifies the indication of product Labels.

Not underlined: [[Pb]]/INCLUDES > MCV

Underlined: [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. 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.





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