TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC3474

Switching Applications
Solenoid Drive Applications

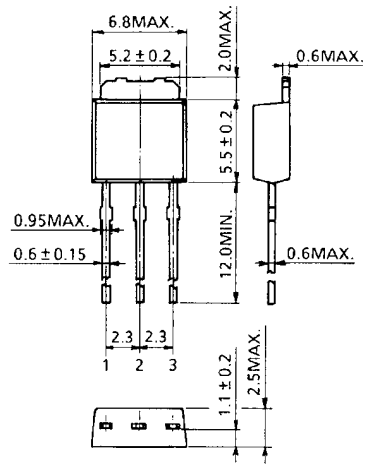
Industrial Applications

- 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)

Maximum Ratings (Ta = 25°C)

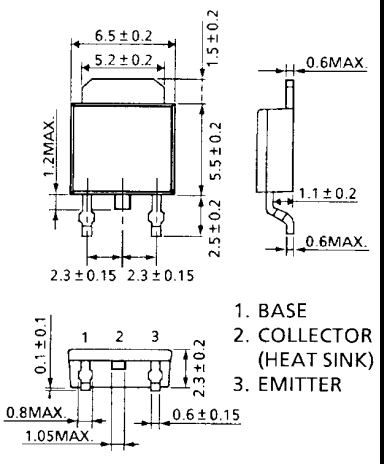
Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	80	V
Collector-emitter voltage		V_{CEO}	80	V
Emitter-base voltage		V_{EBO}	7	V
Collector current		I_C	2	A
Base current		I_B	0.5	A
Collector power dissipation	Ta = 25°C	P_C	1.0	W
	Tc = 25°C		20	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	−55 to 150	°C

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	2-7B1A

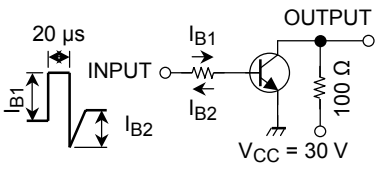
Weight: 0.36 g (typ.)



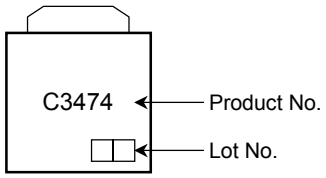
JEDEC	—
JEITA	—
TOSHIBA	2-7J1A

Weight: 0.36 g (typ.)

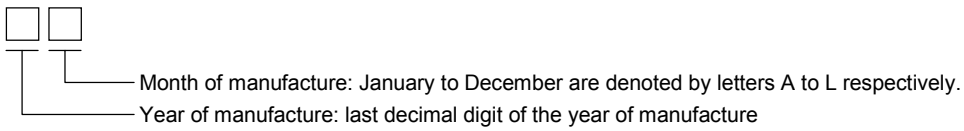
Electrical Characteristics (Ta = 25°C)

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

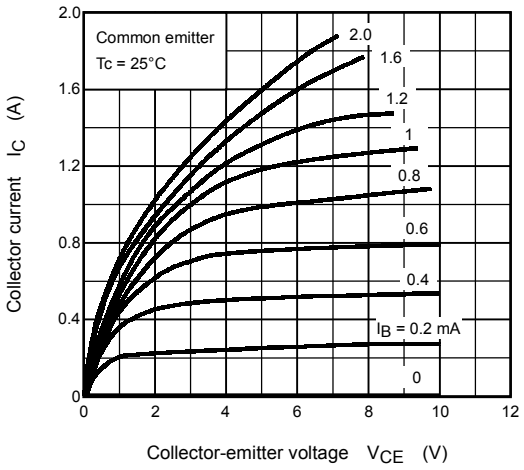
Marking



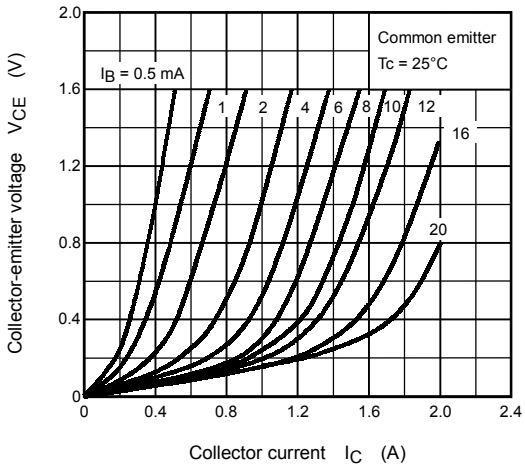
Explanation of Lot No.



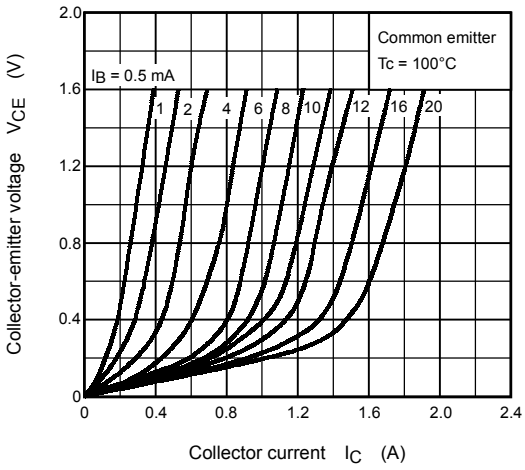
$I_C - V_{CE}$



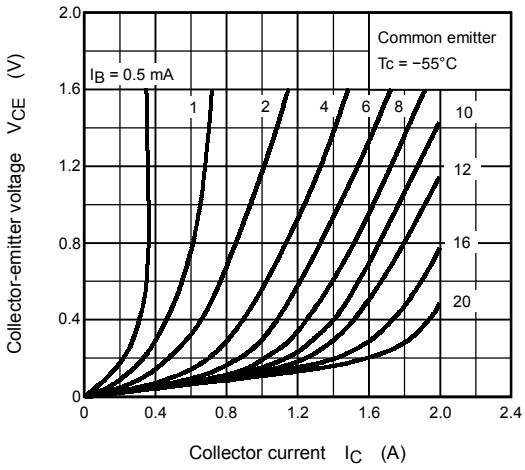
$V_{CE} - I_C$



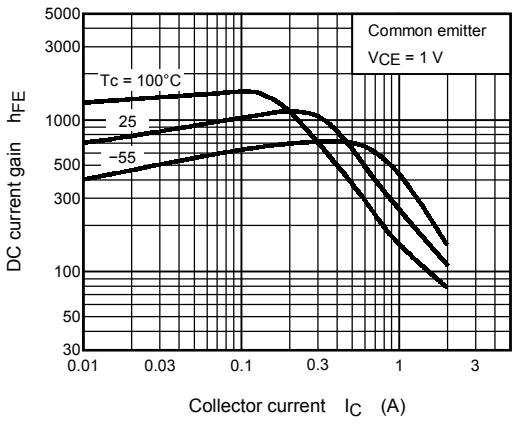
$V_{CE} - I_C$



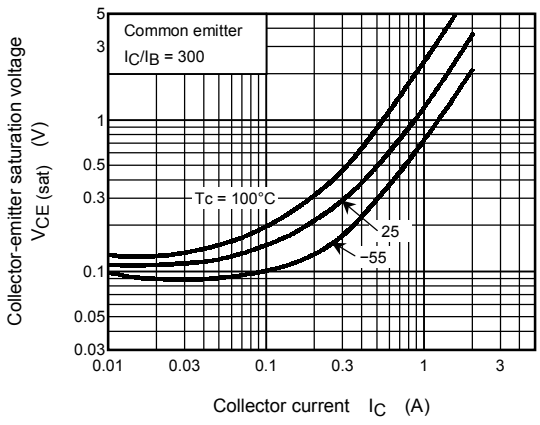
$V_{CE} - I_C$



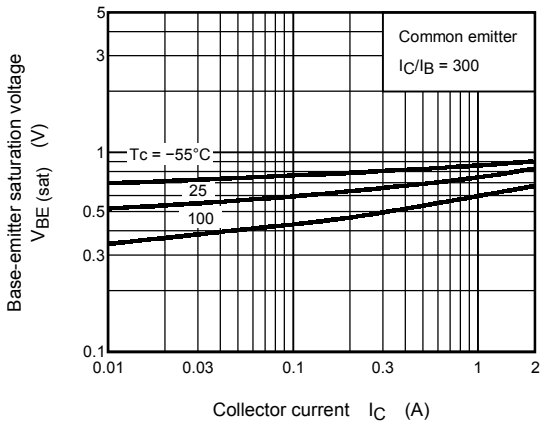
$h_{FE} - I_C$



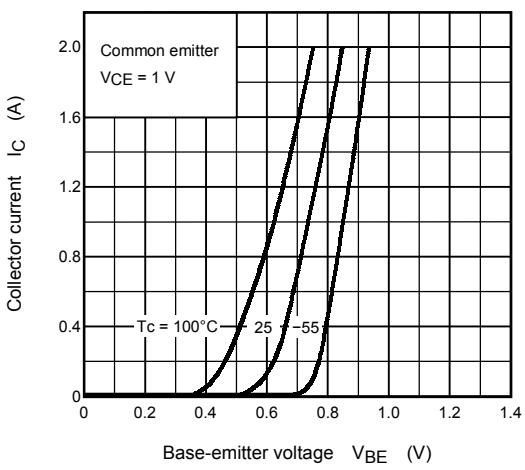
$V_{CE\ (sat)} - I_C$



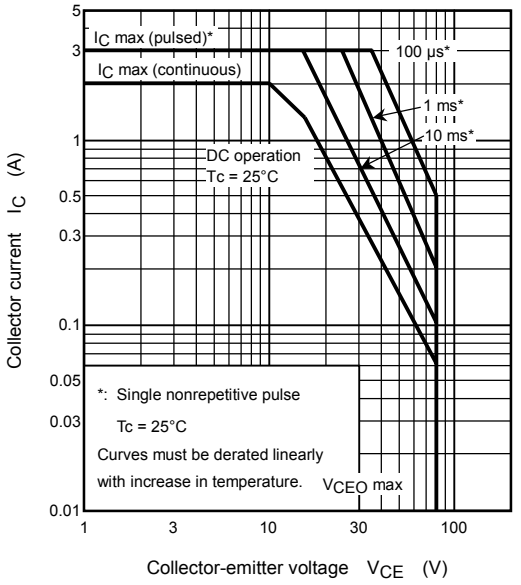
$V_{BE\ (sat)} - I_C$



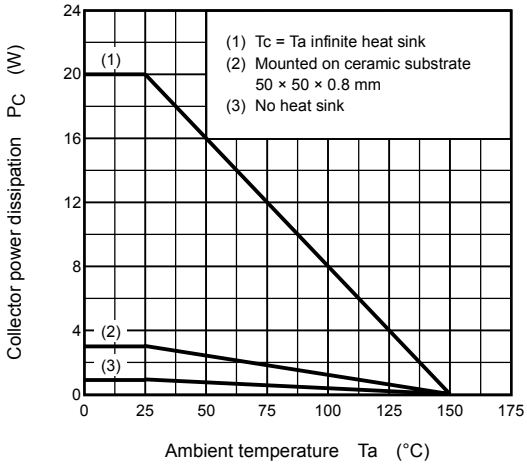
$I_C - V_{BE}$



Safe Operating Area



$P_C - Ta$



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