

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

# 2SA1241

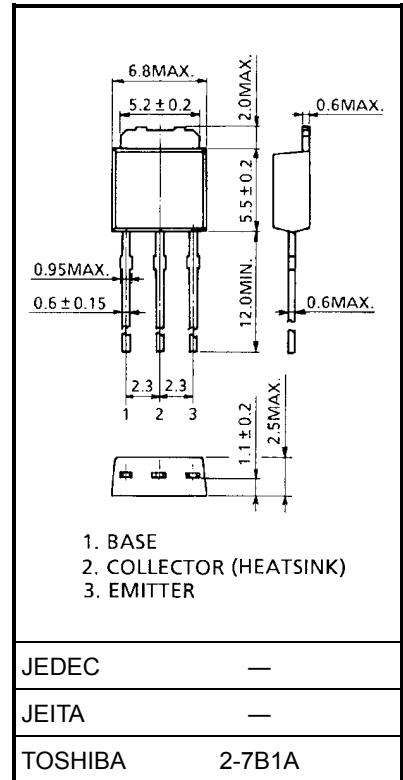
Power Amplifier Applications  
Power Switching Applications

- Low Collector saturation voltage:  $V_{CE(sat)} = -0.5 \text{ V (max)}$  ( $I_C = -1 \text{ A}$ )
- Excellent switching time:  $t_{stg} = 1.0 \mu\text{s}$  (typ.)
- Complementary to 2SC3076

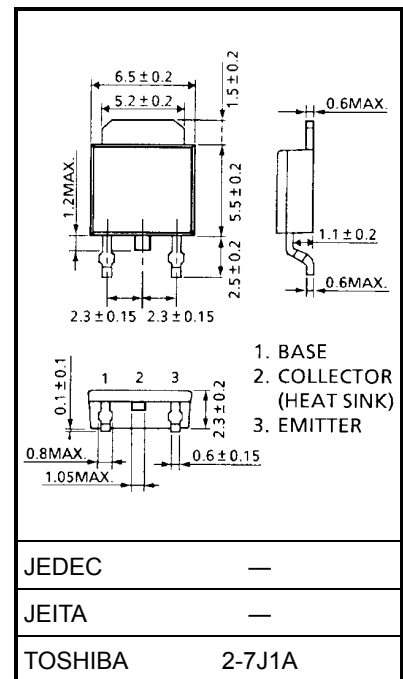
## Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	-50	V
Collector-emitter voltage		$V_{CEO}$	-50	V
Emitter-base voltage		$V_{EBO}$	-5	V
Collector current		$I_C$	-2	A
Base current		$I_B$	-1	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1.0	W
	$T_c = 25^\circ\text{C}$		10	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$

Unit: mm



Weight: 0.36 g (typ.)



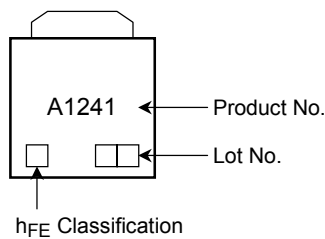
Weight: 0.36 g (typ.)

## Electrical Characteristics (Ta = 25°C)

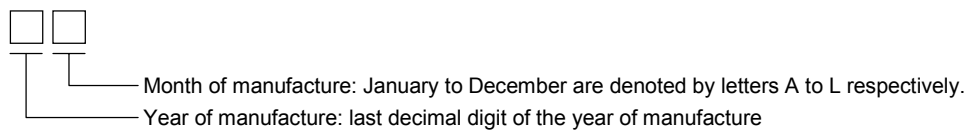
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		$I_{CBO}$	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-1.0	$\mu\text{A}$
Emitter cut-off current		$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1.0	$\mu\text{A}$
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-50	—	—	V
DC current gain	$h_{FE(1)}$ (Note)		$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	70	—	240	
	$h_{FE(2)}$		$V_{CE} = -2\text{ V}, I_B = -1.5\text{ A}$	40	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = -1\text{ A}, I_B = -0.05\text{ A}$	—	—	-0.5	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = -1\text{ A}, I_B = -0.05\text{ A}$	—	—	-1.2	V
Transition frequency		$f_T$	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	100	—	MHz
Collector output capacitance		$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	40	—	pF
Switching time	Turn-on time	$t_{on}$		—	0.1	—	$\mu\text{s}$
	Storage time	$t_{stg}$		—	1.0	—	
	Fall time	$t_f$		$-I_{B1} = I_{B2} = 0.05\text{ A}$ DUTY CYCLE $\leq 1\%$	—	0.1	

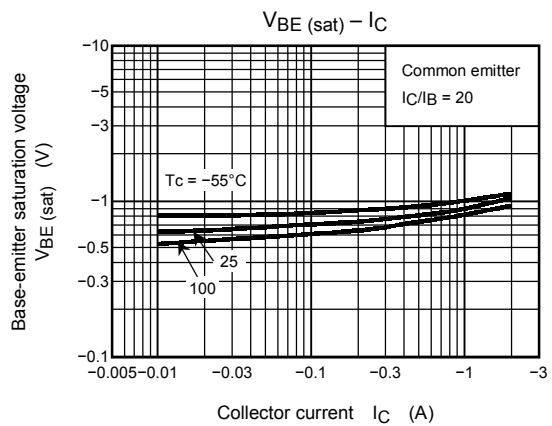
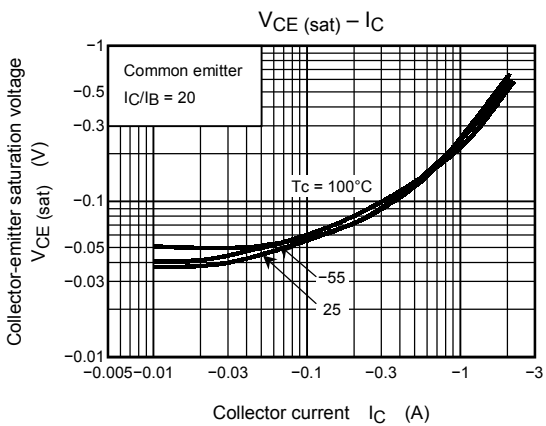
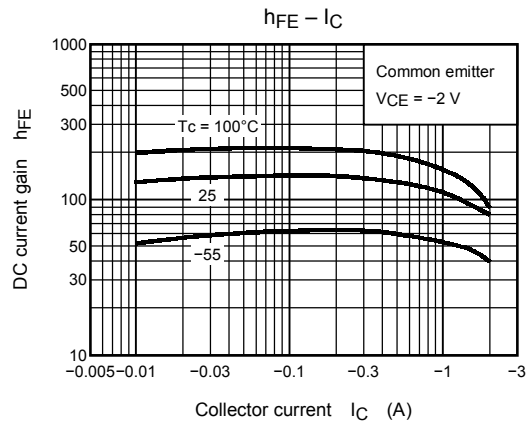
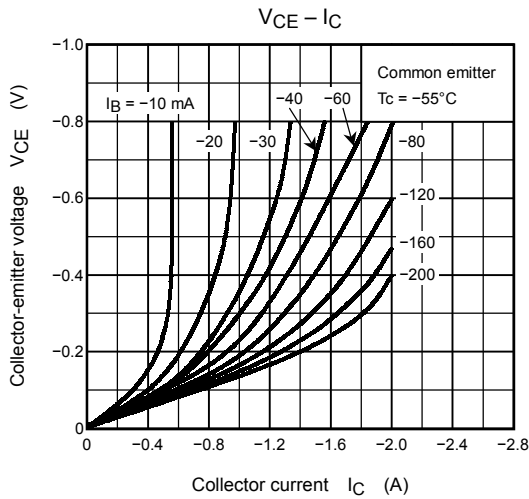
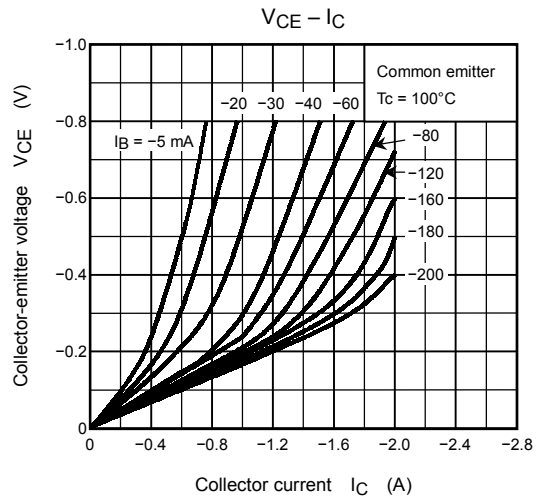
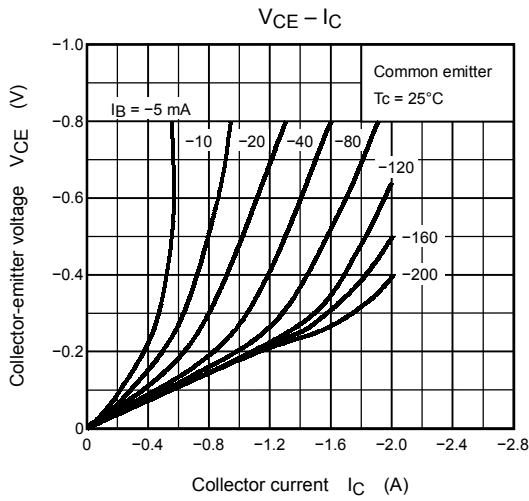
Note:  $h_{FE(1)}$  classification O: 70 to 140, Y: 120 to 240

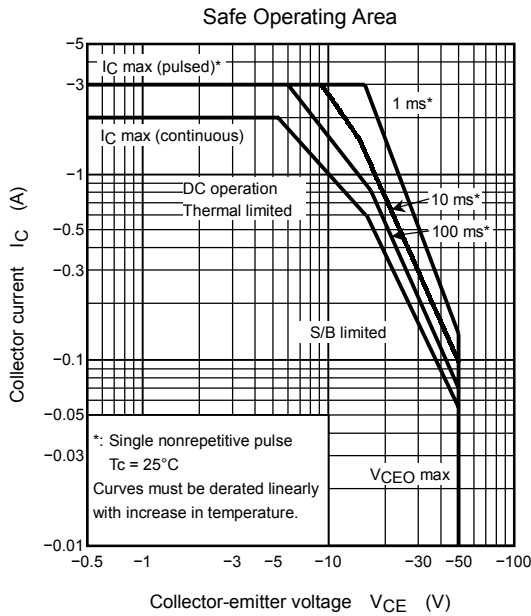
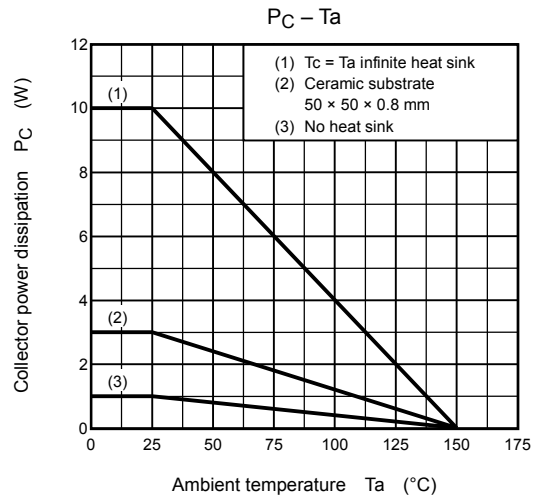
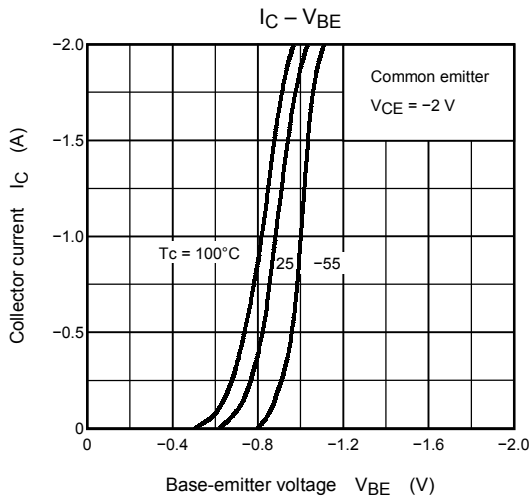
## Marking



## Explanation of Lot No.







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