

TOSHIBA Transistor Silicon NPN Triple Diffused Type

# 2SC5458

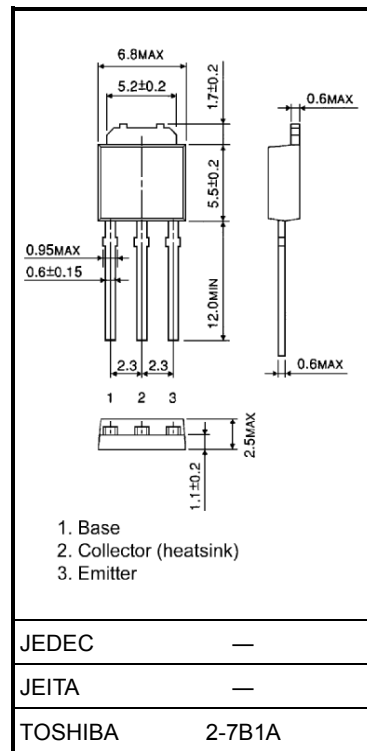
High Voltage Switching Applications  
 Switching Regulator Applications  
 DC-DC Converter Applications  
 DC-AC Inverter Applications

- Excellent switching times:  $t_r = 0.5 \mu\text{s}$  (max)  
 $t_f = 0.3 \mu\text{s}$  (max) ( $I_C = 0.4 \text{ A}$ )
- High collector breakdown voltage:  $V_{CEO} = 400 \text{ V}$

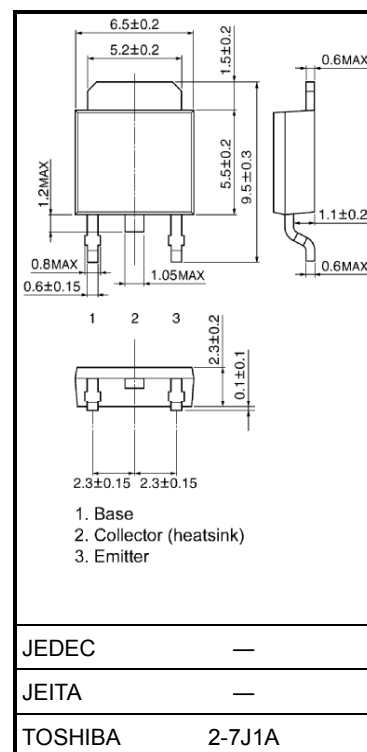
### Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Characteristics		Symbol	Rating	Unit
Collector-base voltage		$V_{CBO}$	600	V
Collector-emitter voltage		$V_{CEO}$	400	V
Emitter-base voltage		$V_{EBO}$	7	V
Collector current	DC	$I_C$	0.8	A
	Pulse	$I_{CP}$	1.5	
Base current		$I_B$	0.5	A
Collector power dissipation	$T_a = 25^\circ\text{C}$	$P_C$	1.0	W
	$T_c = 25^\circ\text{C}$		10	
Junction temperature		$T_j$	150	$^\circ\text{C}$
Storage temperature range		$T_{stg}$	-55 to 150	$^\circ\text{C}$

Unit: mm

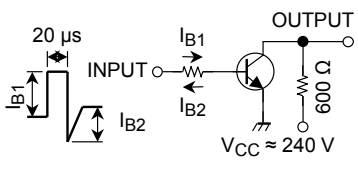


Weight: 0.36 g (typ.)

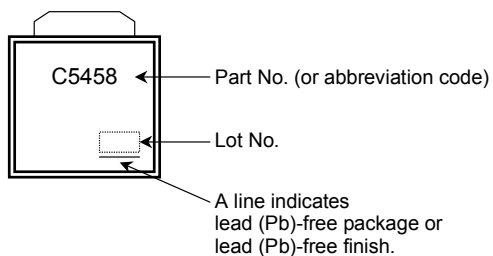


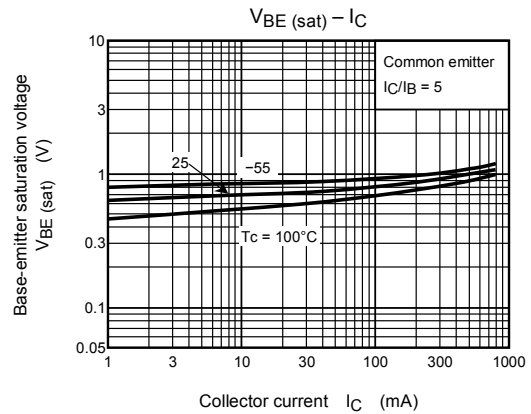
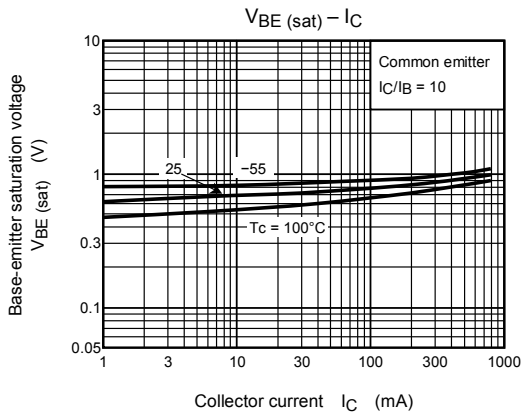
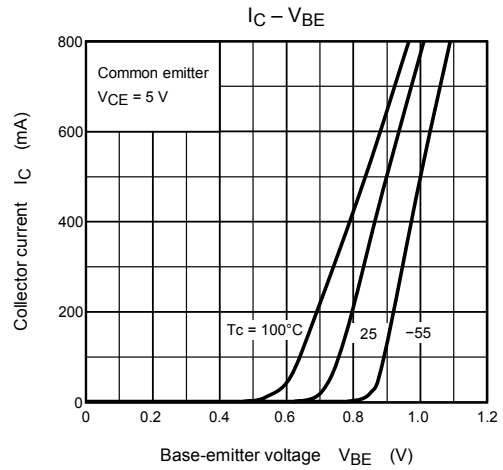
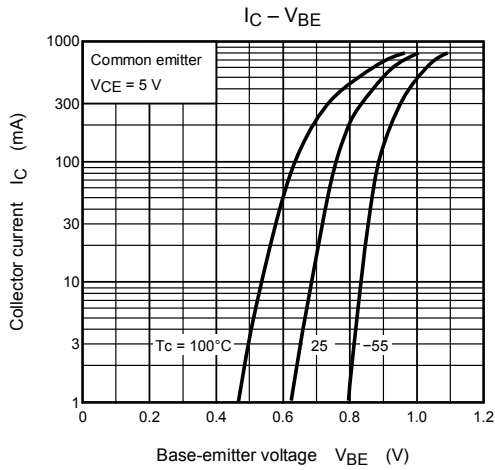
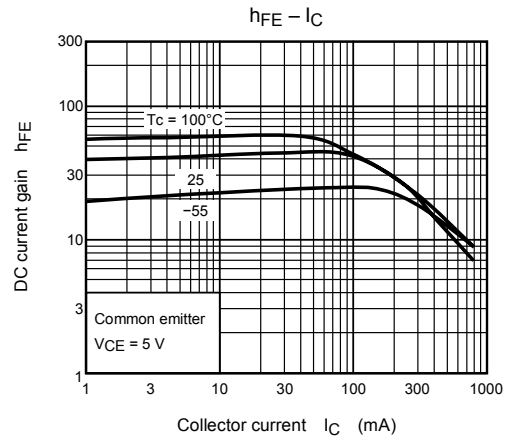
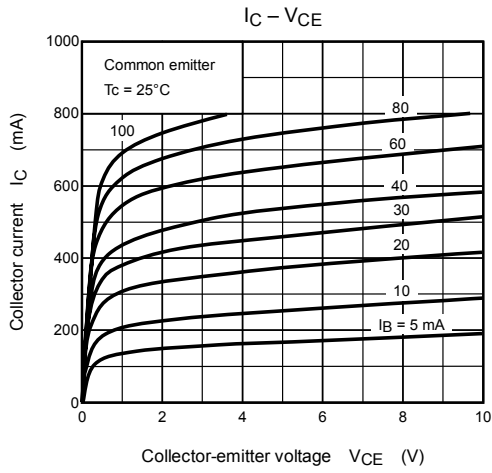
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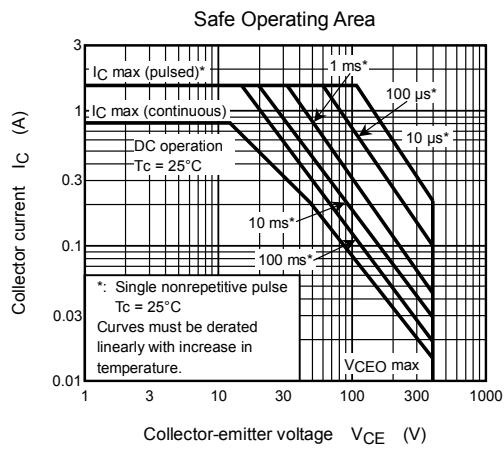
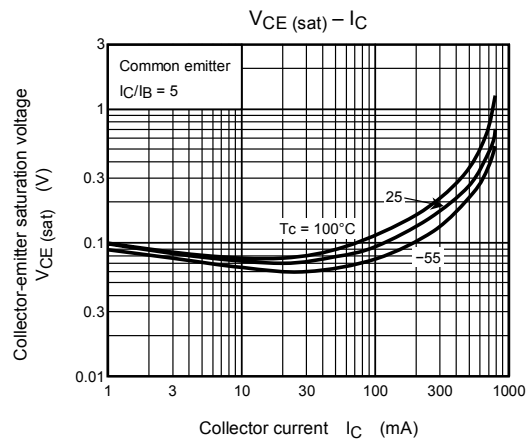
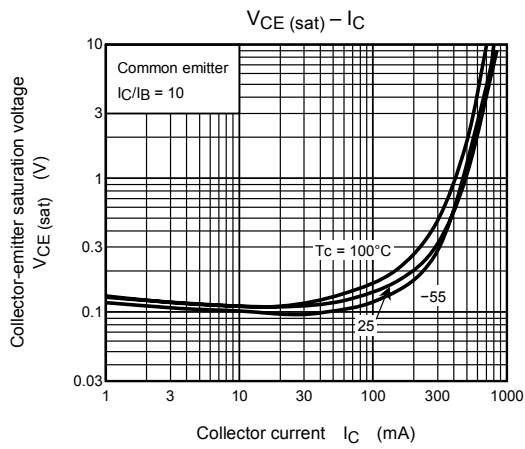
## Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		$I_{CBO}$	$V_{CB} = 480 \text{ V}, I_E = 0$	—	—	100	$\mu\text{A}$
Emitter cut-off current		$I_{EBO}$	$V_{EB} = 7 \text{ V}, I_C = 0$	—	—	100	$\mu\text{A}$
Collector-base breakdown voltage		$V_{(BR) CBO}$	$I_C = 1 \text{ mA}, I_E = 0$	600	—	—	V
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	400	—	—	V
DC current gain		$h_{FE}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$	20	—	—	
			$V_{CE} = 5 \text{ V}, I_C = 0.1 \text{ A}$	30	—	80	
Collector emitter saturation voltage		$V_{CE(sat)}$	$I_C = 0.3 \text{ A}, I_B = 0.04 \text{ A}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 0.3 \text{ A}, I_B = 0.04 \text{ A}$	—	—	1.3	V
Switching time	Turn-on time	$t_r$		—	—	0.5	$\mu\text{s}$
	Storage time	$t_{stg}$		—	—	2.0	
	Fall time	$t_f$		$I_{B1} = 50 \text{ mA}, I_{B2} = -100 \text{ mA}$ DUTY CYCLE $\leq 1\%$	—	—	

## Marking







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