

TOSHIBA Transistor Silicon NPN Triple Diffused Type

2SC6010

High Voltage Switching Applications

Switching Regulator Applications

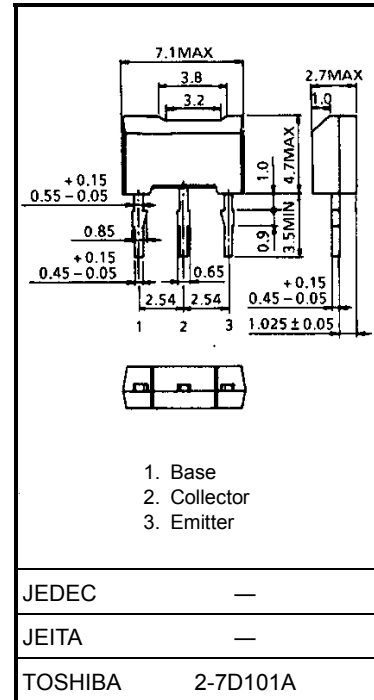
DC-DC Converter Applications

- High speed switching: $t_f = 0.24\mu s$ (max) ($I_C = 0.3A$)

Maximum Ratings ($T_a = 25^\circ C$)

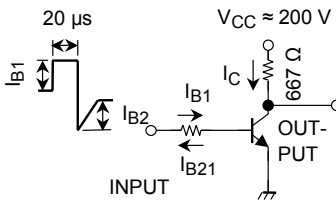
Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	600	V
Collector-emitter voltage	V_{CEX}	600	V
Collector-emitter voltage	V_{CEO}	285	V
Emitter-base voltage	V_{EBO}	8	V
Collector current	DC	I_C	A
	Pulse	I_{CP}	
Base current	I_B	0.5	A
Collector power dissipation	$T_a = 25^\circ C$	P_C	W
Junction temperature	T_j	150	$^\circ C$
Storage temperature range	T_{stg}	-55 to 150	$^\circ C$

Unit: mm

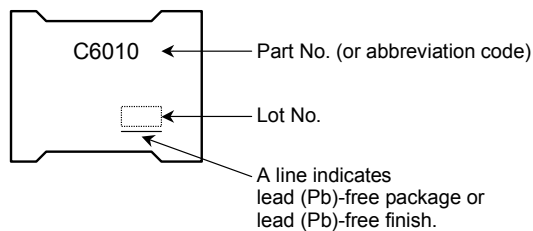


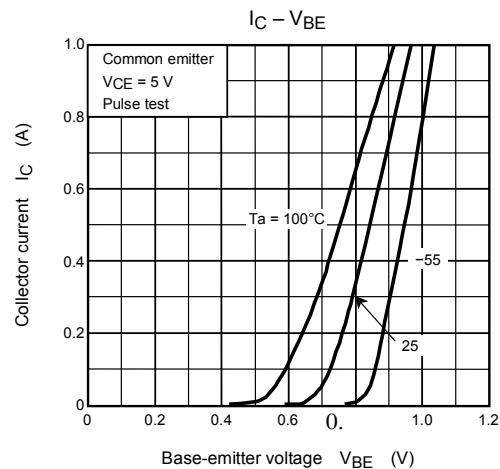
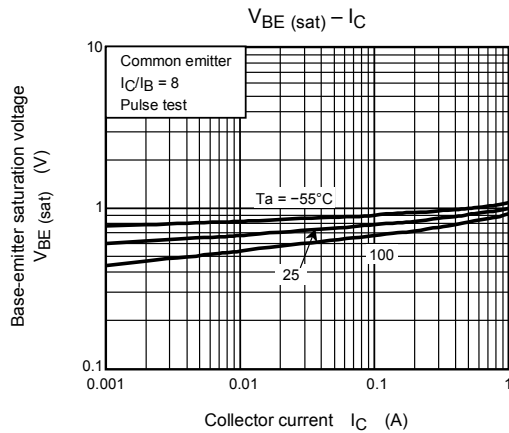
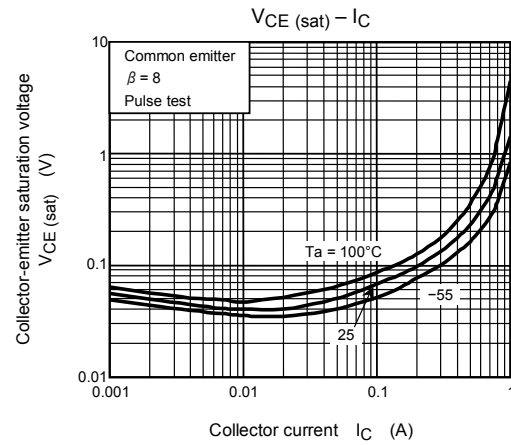
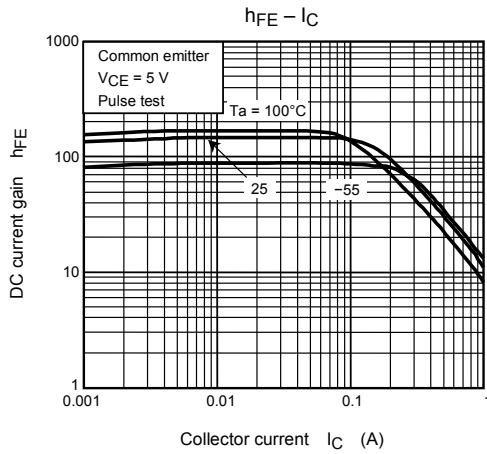
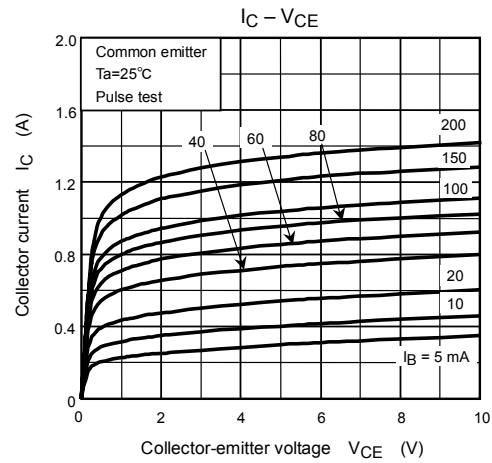
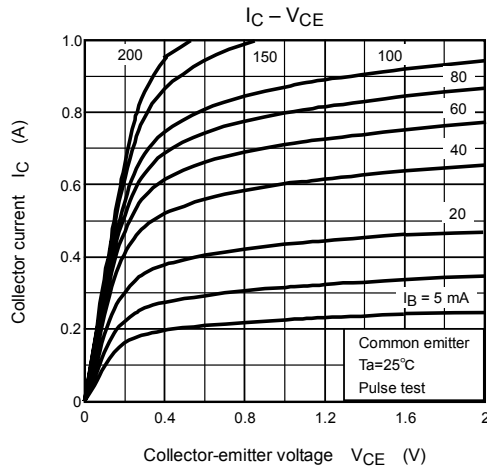
Weight: g (typ.)

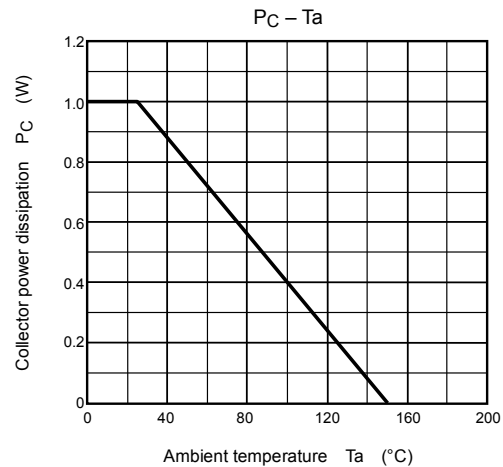
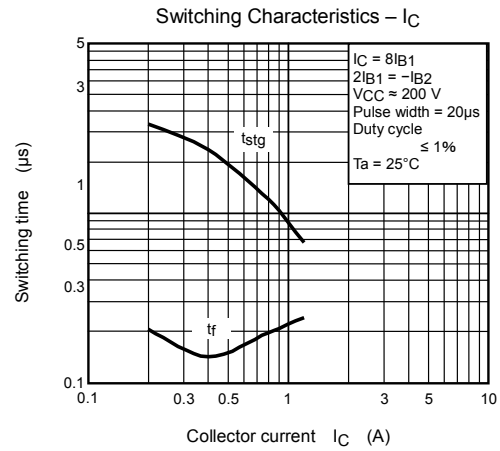
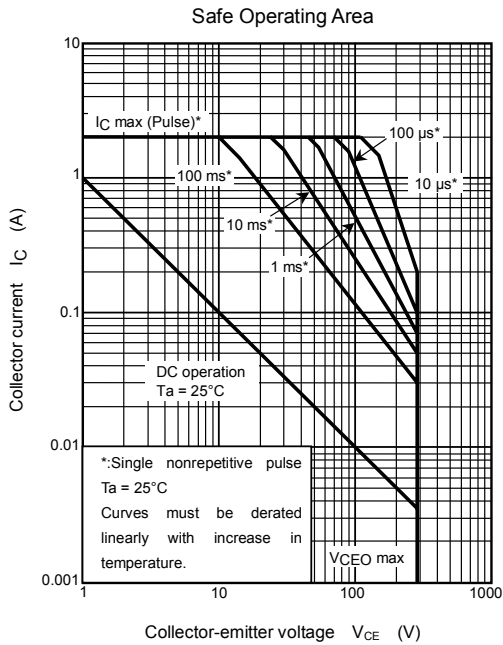
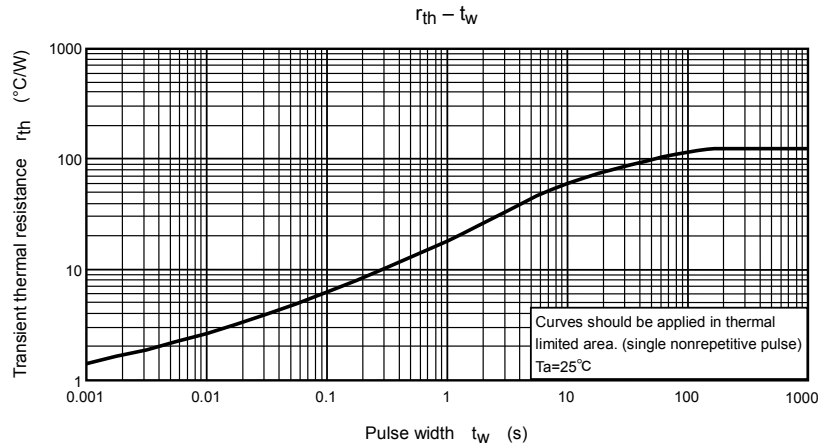
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current		I_{CBO}	$V_{CB} = 600 \text{ V}, I_E = 0$	—	—	100	μA
Emitter cut-off current		I_{EBO}	$V_{EB} = 8 \text{ V}, I_C = 0$	—	—	100	μA
Collector-base breakdown voltage		$V_{(BR) CBO}$	$I_C = 1 \text{ mA}, I_B = 0$	600	—	—	V
Collector-emitter breakdown voltage		$V_{(BR) CEO}$	$I_C = 10 \text{ mA}, I_B = 0$	285	—	—	V
DC current gain		$h_{FE (1)}$	$V_{CE} = 5 \text{ V}, I_C = 1 \text{ mA}$	80	—	200	
		$h_{FE (2)}$	$V_{CE} = 5 \text{ V}, I_C = 0.1 \text{ A}$	100	—	200	
		$h_{FE (3)}$	$V_{CE} = 5 \text{ V}, I_C = 0.2 \text{ A}$	60	—	—	
Collector emitter saturation voltage		$V_{CE (sat)}$	$I_C = 0.6 \text{ A}, I_B = 75 \text{ mA}$	—	—	1.0	V
Base-emitter saturation voltage		$V_{BE (sat)}$	$I_C = 0.6 \text{ A}, I_B = 75 \text{ mA}$	—	—	1.3	V
Switching time	Rise time	t_r	 $20 \mu\text{s}$ $V_{CC} \approx 200 \text{ V}$ 667Ω I_{B1} I_{B2} I_{B21} I_C $I_{B1} = 20 \text{ mA}, -I_{B2} = 50 \text{ mA}$ $\text{DUTY CYCLE} \leq 1\%$	—	—	0.4	μs
	Storage time	t_{stg}		—	—	3.0	
	Fall time	t_f		—	—	0.24	

Marking







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