

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC5886A

High-Speed Switching Applications

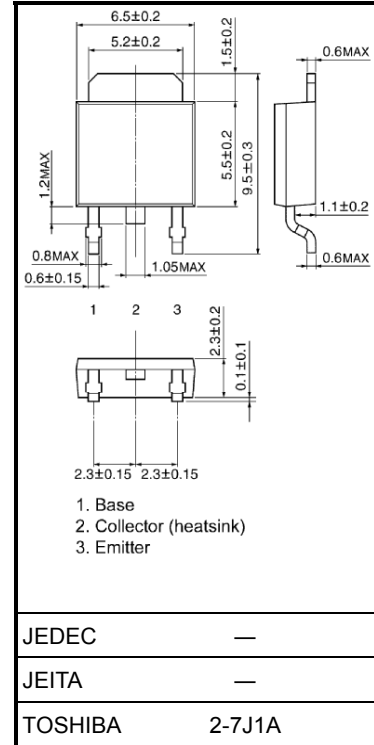
DC/DC Converter Applications

Unit: mm

- High DC current gain: $h_{FE} = 400$ to 1000 ($I_C = 0.5$ A)
- Low collector-emitter saturation: $V_{CE(sat)} = 0.22$ V (max)
- High-speed switching: $t_f = 95$ ns (typ.)

Maximum Ratings (Ta = 25°C)

Characteristic		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	120	V
Collector-emitter voltage		V_{CEX}	100	V
		V_{CEO}	50	
Emitter-base voltage		V_{EBO}	9	V
Collector current	DC	I_C	5	A
	Pulse	I_{CP}	10	
Base current		I_B	0.5	A
Collector power dissipation	Ta = 25°C	P_C	1	W
	Tc = 25°C		20	
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-55 to 150	°C



Weight: 0.36 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cutoff current		I_{CBO}	$V_{CB} = 120$ V, $I_E = 0$	—	—	100	nA
Emitter cutoff current		I_{EBO}	$V_{EB} = 9$ V, $I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage		$V_{(BR)CEO}$	$I_C = 10$ mA, $I_B = 0$	50	—	—	V
DC current gain		$h_{FE}(1)$	$V_{CE} = 2$ V, $I_C = 0.5$ A	400	—	1000	
		$h_{FE}(2)$	$V_{CE} = 2$ V, $I_C = 1.6$ A	200	—	—	
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_C = 1.6$ A, $I_B = 32$ mA	—	—	0.22	V
Base-emitter saturation voltage		$V_{BE(sat)}$	$I_C = 1.6$ A, $I_B = 32$ mA	—	—	1.10	V
Switching time	Rise time	t_r	See Figure 1. $V_{CC} \approx 24$ V, $R_L = 15 \Omega$ $I_{B1} = 32$ mA, $I_{B2} = -53$ mA	—	60	—	ns
	Storage time	t_{stg}		—	500	—	
	Fall time	t_f		—	95	—	

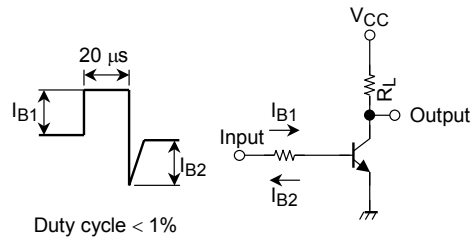
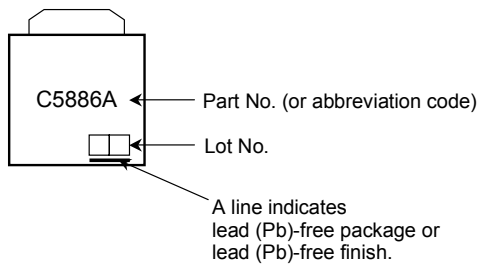
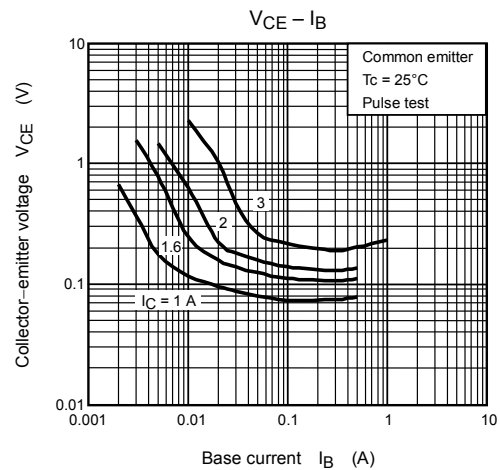
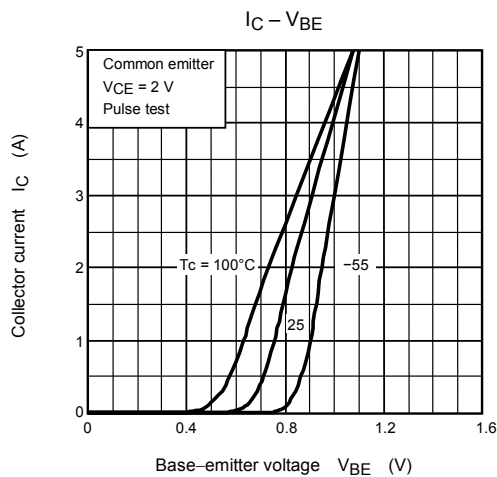
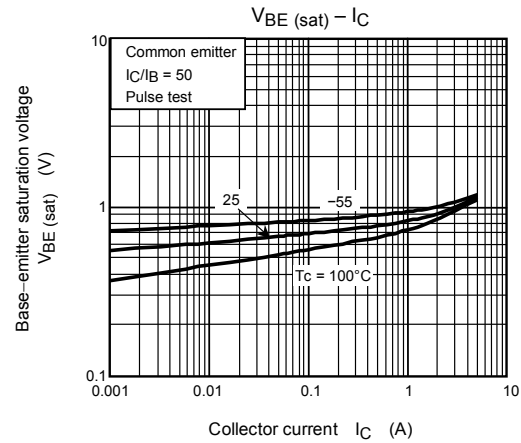
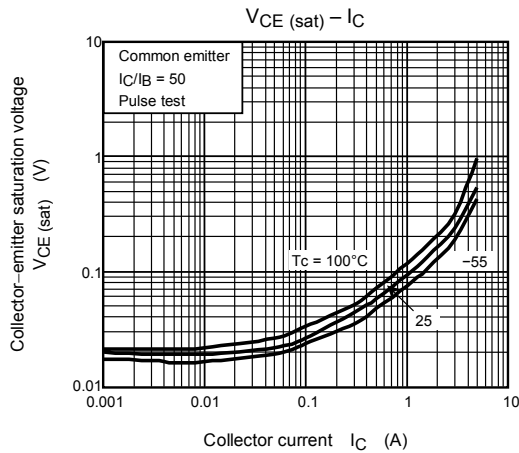
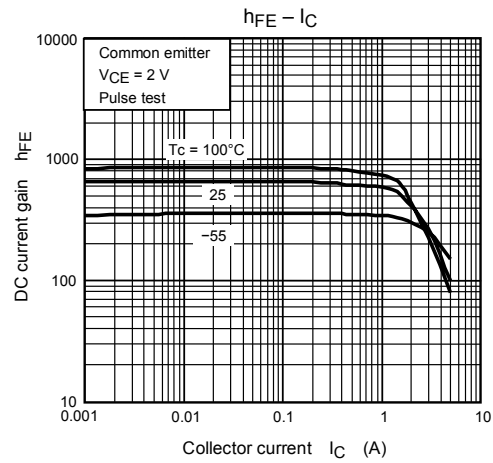
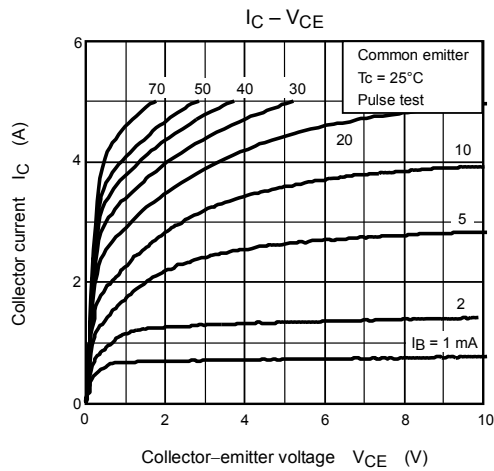
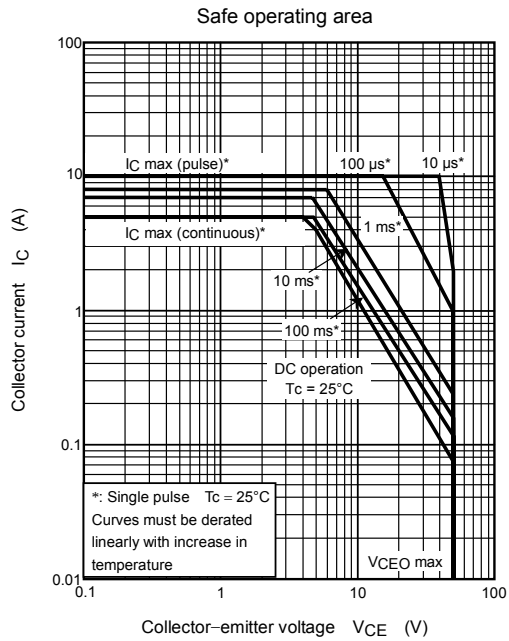
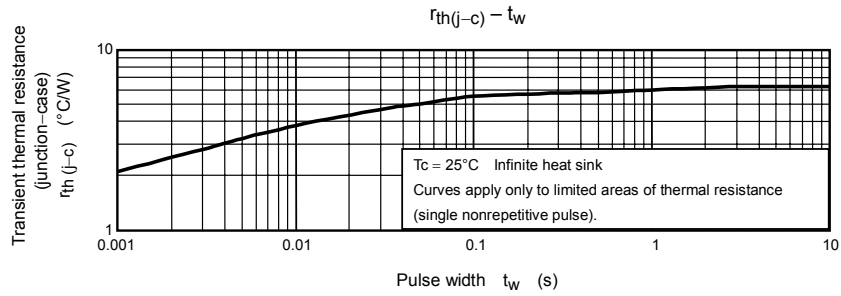


Figure 1 Switching Time Test Circuit & Timing Chart

Marking







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