

TOSHIBA Transistor Silicon NPN Epitaxial Type

2SC5755

High-Speed Switching Applications
 DC-DC Converter Applications
 Strobe Applications

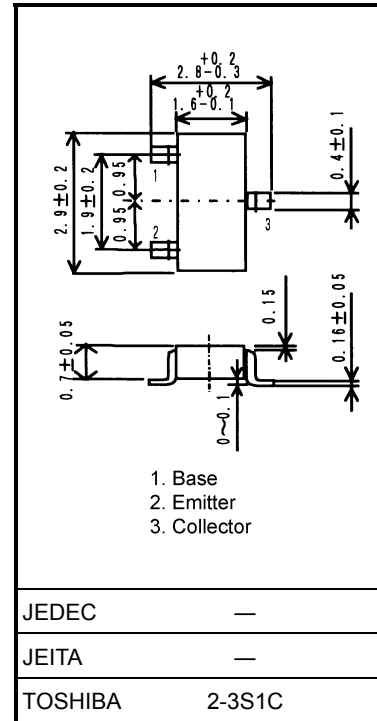
- High DC current gain: $h_{FE} = 400$ to 1000 ($I_C = 0.2$ A)
- Low collector-emitter saturation voltage: $V_{CE(sat)} = 0.12$ V (max)
- High-speed switching: $t_f = 25$ ns (typ.)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	20	V
Collector-emitter voltage	V_{CEO}	10	V
Emitter-base voltage	V_{EBO}	7	V
Collector current	DC	I_C	A
	Pulse	I_{CP}	
Base current	I_B	200	mA
Collector power dissipation	DC	P_C (Note)	500
	t = 10 s		750
Junction temperature	T_j	150	°C
Storage temperature range	T_{stg}	-55 to 150	°C

Note: Mounted on an FR4 board (glass epoxy, 1.6 mm thick, Cu area: 645 mm²)

Unit: mm



Weight: 0.01 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 20$ V, $I_E = 0$	—	—	100	nA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7$ V, $I_C = 0$	—	—	100	nA
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 10$ mA, $I_B = 0$	10	—	—	V
DC current gain	$h_{FE}(1)$	$V_{CE} = 2$ V, $I_C = 0.2$ A	400	—	1000	
	$h_{FE}(2)$	$V_{CE} = 2$ V, $I_C = 0.6$ A	200	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 0.6$ A, $I_B = 12$ mA	—	—	0.12	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 0.6$ A, $I_B = 12$ mA	—	—	1.10	V
Switching time	Rise time	t_r	See Figure 1.		—	ns
	Storage time	t_{stg}	$V_{CC} \approx 6$ V, $R_L = 10 \Omega$	—	215	
	Fall time	t_f	$I_{B1} = -I_{B2} = 12$ mA	—	25	

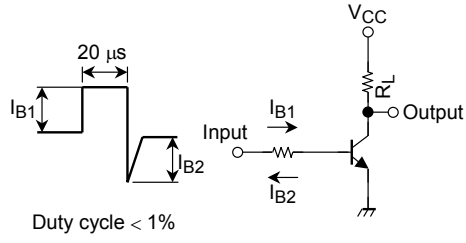
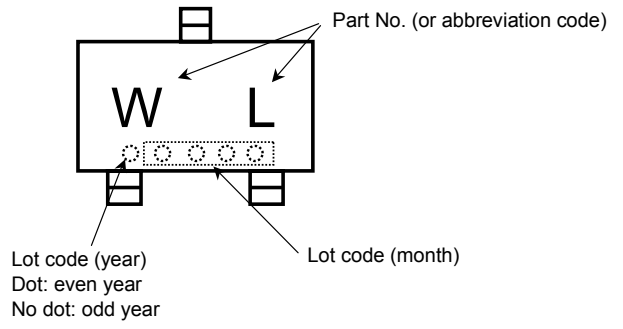
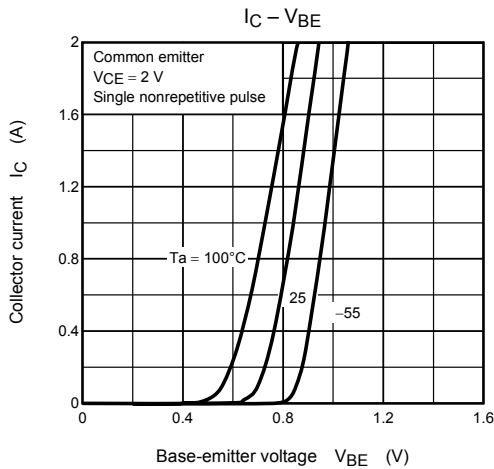
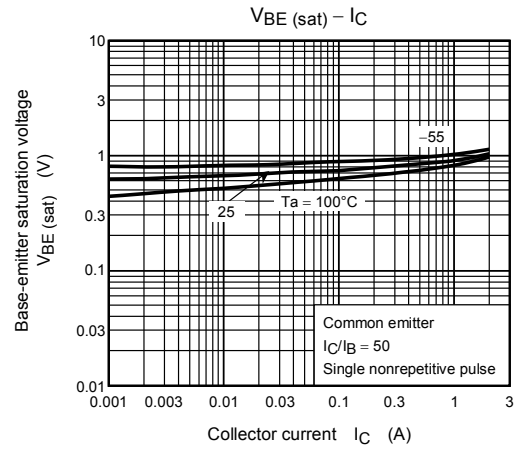
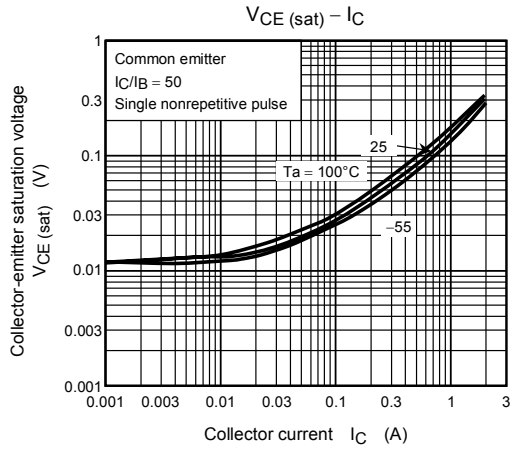
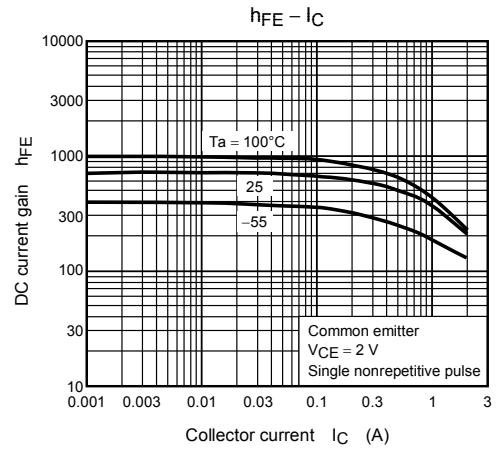
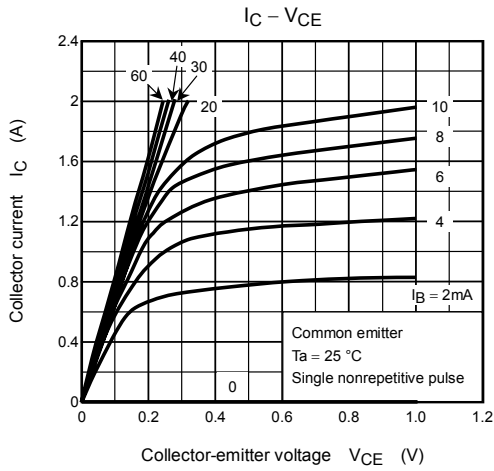
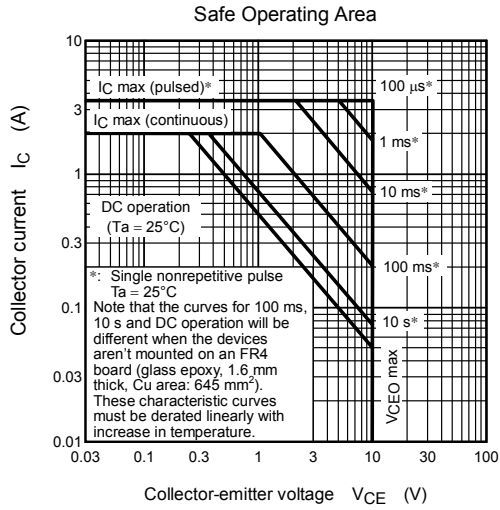
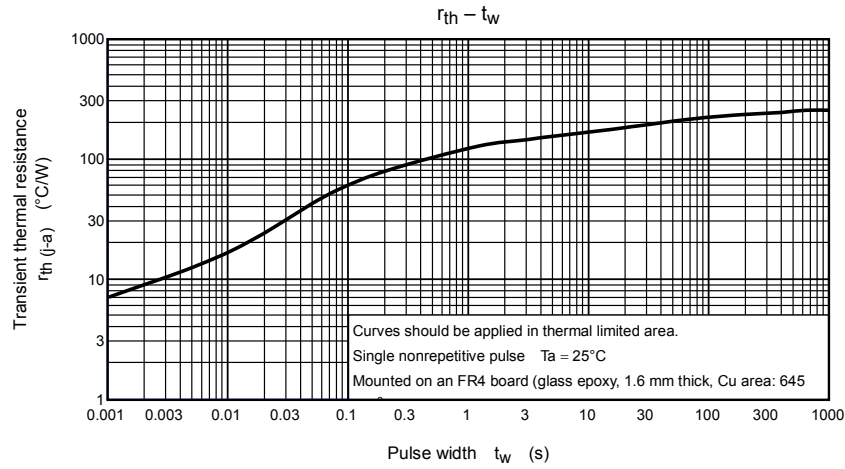


Figure 1 Switching Time Test Circuit & Timing Chart

Marking







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