

XN0A554G

Silicon NPN epitaxial planar type

For high-speed switching

■ Features

- Two elements incorporated into one package
- Reduction of the mounting area and assembly cost by one half
- Low collector-emitter saturation voltage $V_{CE(sat)}$

■ Basic Part Number

- 2SC3757 × 2

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	40	V
Collector-emitter voltage (E-B short)	V_{CES}	40	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	100	mA
Peak collector current	I_{CP}	300	mA
Total power dissipation	P_T	300	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

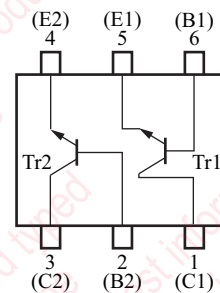
■ Package

- Code
Mini6-G3
- Pin Name

- 1: Collector (Tr1) 4: Emitter (Tr2)
2: Base (Tr2) 5: Emitter (Tr1)
3: Collector (Tr2) 6: Base (Tr1)

■ Marking Symbol: DT

■ Internal Connection



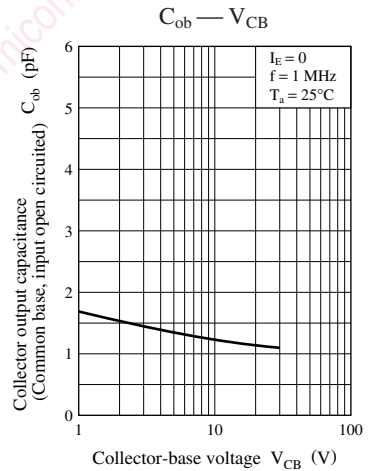
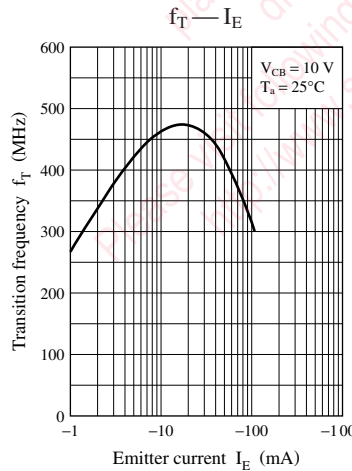
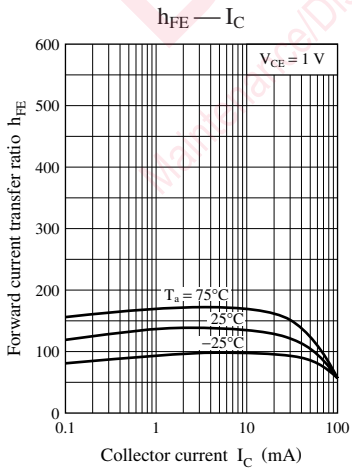
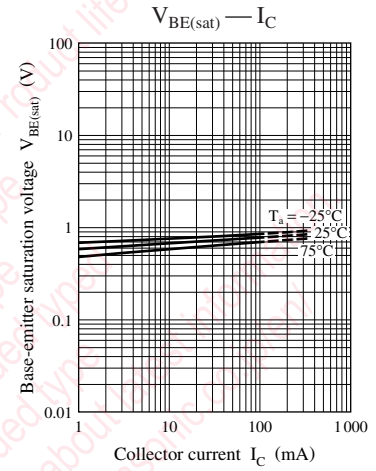
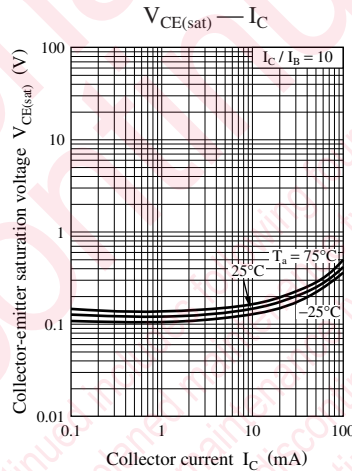
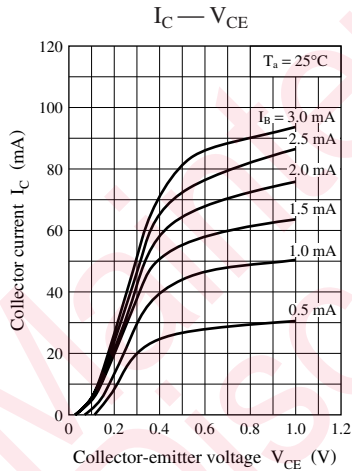
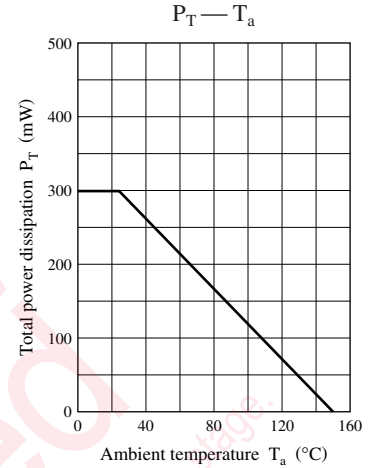
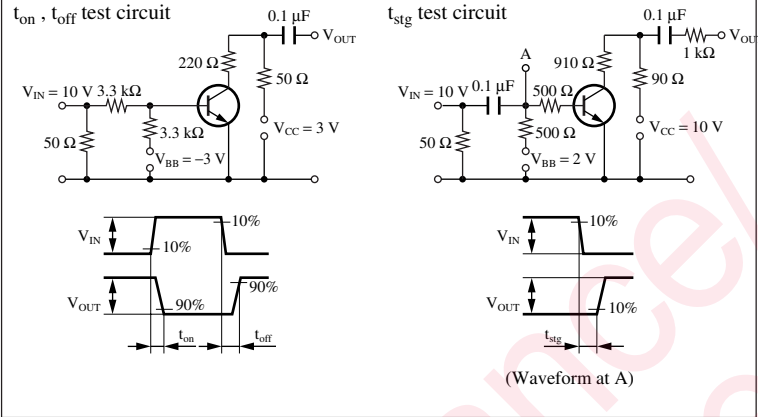
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 40\text{ V}, I_E = 0$			0.1	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 4\text{ V}, I_C = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	60		320	—
h_{FE} ratio *	$h_{FE(\text{Small})}$ $/h_{FE(\text{Large})}$	$V_{CE} = 1\text{ V}, I_C = 10\text{ mA}$	0.50	0.99		—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$		0.17	0.25	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10\text{ mA}, I_B = 1\text{ mA}$			1.0	V
Transition frequency	f_T	$V_{CB} = 10\text{ V}, I_E = -10\text{ mA}, f = 200\text{ MHz}$		450		MHz
Collector output capacitance (Common base, input open circuited)	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$		2	6	pF
Turn-on time	t_{on}	Refer to the switching time measurement circuit		17		ns
Turn-off time	t_{off}			17		ns
Storage time	t_{stg}			10		ns

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

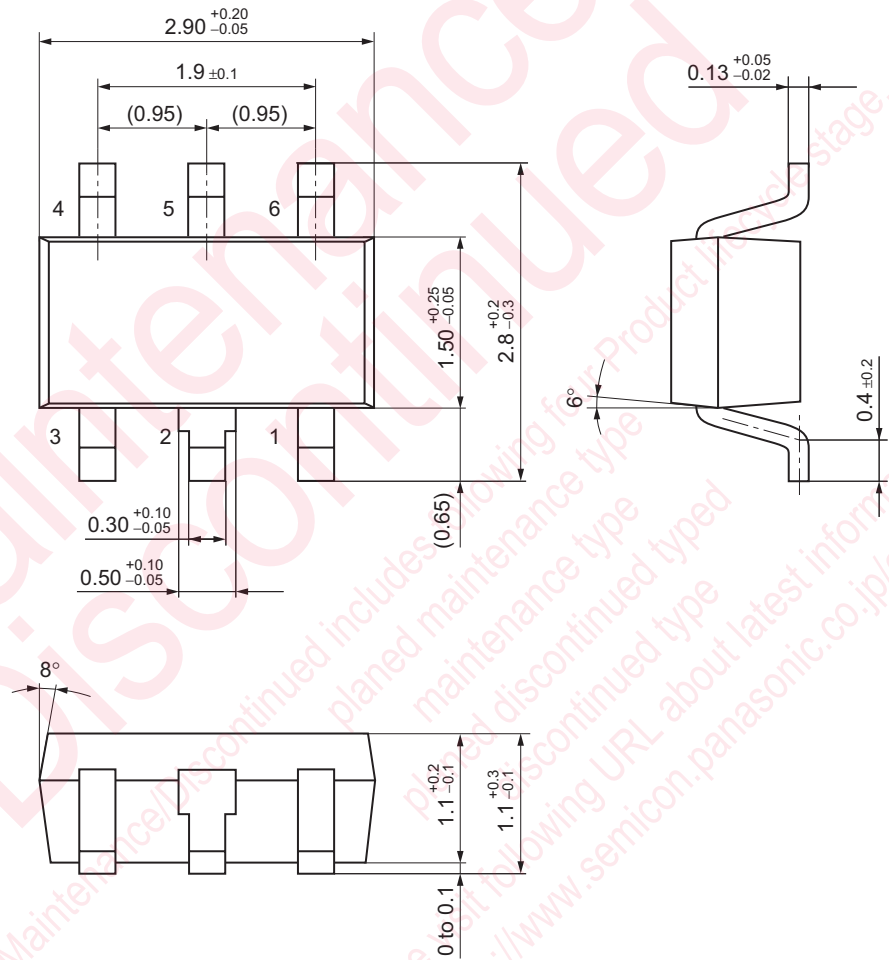
2. *: Ratio between 2 elements

Switching time measurement circuit



Mini6-G3

Unit: mm



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