

XP1E554

Silicon NPN epitaxial planer transistor

For high speed switching

■ Features

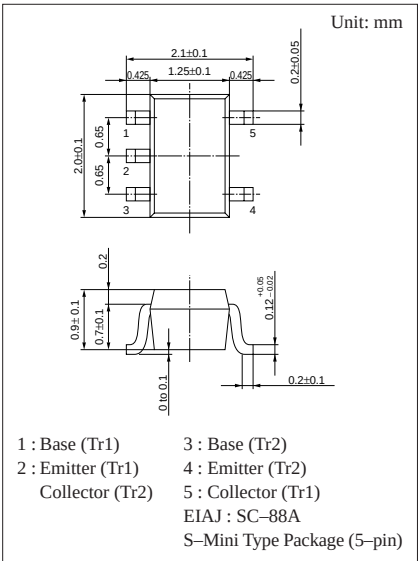
- Two elements incorporated into one package.
(Tr1 emitter is connected to Tr2 collector.)
- Reduction of the mounting area and assembly cost by one half.
- Low $V_{CE(sat)}$

■ Basic Part Number of Element

- 2SC3757 × 2 elements

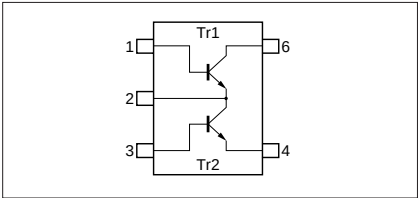
■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Ratings	Unit
Rating of element	Collector to base voltage	V_{CBO}	40	V
	Collector to emitter voltage	V_{CES}	40	V
	Emitter to base voltage	V_{EBO}	5	V
	Collector current	I_C	100	mA
	Peak collector current	I_{CP}	300	mA
Overall	Total power dissipation	P_T	150	mW
	Junction temperature	T_j	150	°C
	Storage temperature	T_{stg}	-55 to +150	°C



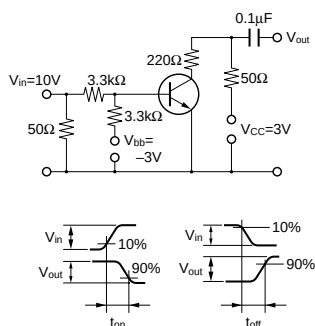
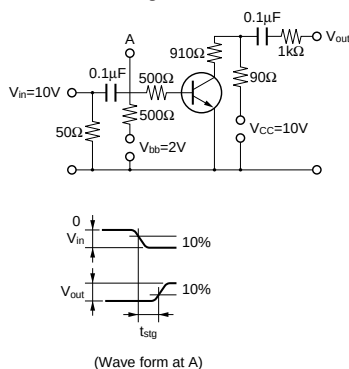
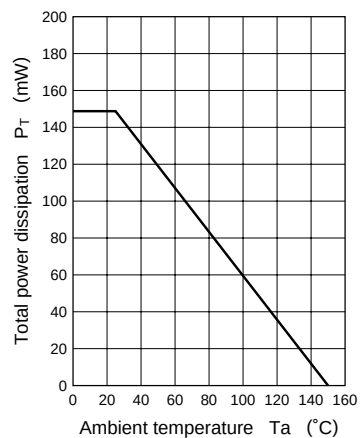
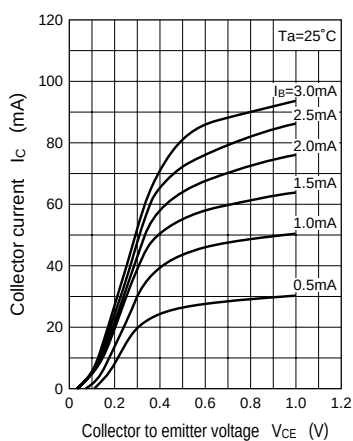
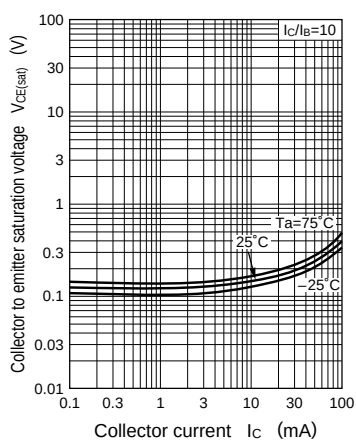
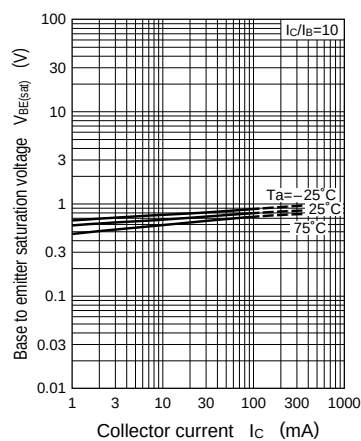
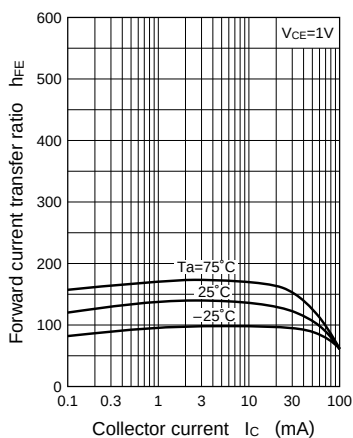
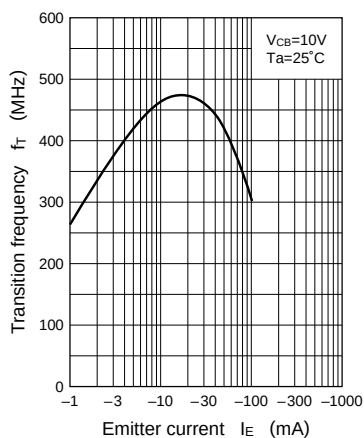
Marking Symbol: 5S

Internal Connection



■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 15V, I_E = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4V, I_C = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 1V, I_C = 10mA$	60		200	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$		0.17	0.25	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 10mA, I_B = 1mA$			1.0	V
Transition frequency	f_T	$V_{CB} = 10V, I_E = -10mA, f = 200MHz$		450		MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10V, I_E = 0, f = 1MHz$		2	6	pF
Turn-on time	t_{on}			17		ns
Turn-off time	t_{off}			17		ns
Storage time	t_{stg}			10		ns

t_{on}, t_{off} Test Circuit t_{stg} Test Circuit $P_T - T_a$  $I_C - V_{CE}$  $V_{CE(sat)} - I_C$  $V_{BE(sat)} - I_C$  $h_{FE} - I_C$  $f_T - I_E$  $C_{ob} - V_{CB}$ 