

XP05554

Silicon NPN epitaxial planer transistor

For high speed switching

Features

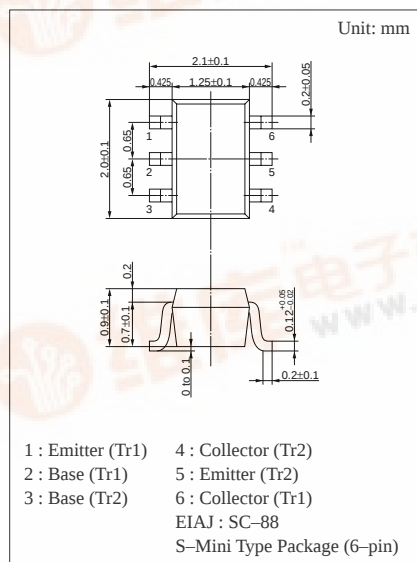
- For high speed switching.
- Low collector to emitter saturation voltage $V_{CE(sat)}$.
- Two elements incorporated into one package.

Basic Part Number of Element

- 2SC3757 $\times$ 2 elements

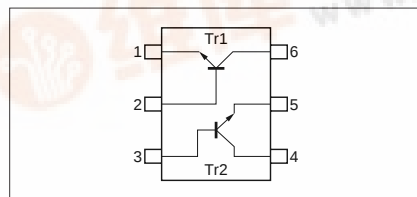
Absolute Maximum Ratings ($T_a=25^\circ\text{C}$)

	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	$^\circ\text{C}$
	Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$



Marking Symbol: HE

Internal Connection



Electrical Characteristics ($T_a=25^\circ\text{C}$)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	$V_{CB} = 15\text{V}, I_E = 0$			0.1	μA
Emitter cutoff current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			0.1	μA
Forward current transfer ratio	h_{FE}	$V_{CE} = 1\text{V}, I_C = 10\text{mA}$	90		200	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1\text{mA}$		0.17	0.25	V
Base to 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	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$		2	6	pF
Turn-on time	t_{on}			17		ns
Turn-off time	t_{off}			17		ns
Storage time	t_{stg}			10		ns

