XP05555 (XP5555)

Silicon NPN epitaxial planer transistor

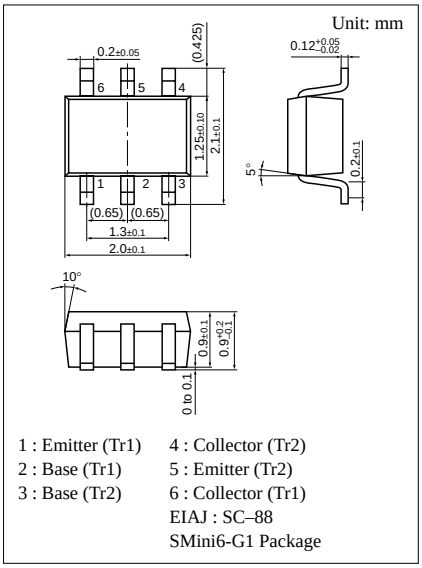
For high speed switching

Features

- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

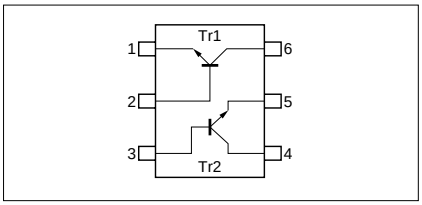
- 2SC4782 × 2 elements



1 : Emitter (Tr1)
2 : Base (Tr1)
3 : Base (Tr2)
4 : Collector (Tr2)
5 : Emitter (Tr2)
6 : Collector (Tr1)
EIAJ : SC–88
SMini6-G1 Package

Marking Symbol: EO

Internal Connection



Absolute Maximum Ratings (Ta=25˚C)

Parameter		Symbol	Ratings	Unit
Rating of element	Collector to base voltage	V_{CBO}	25	V
	Collector to emitter voltage	V_{CES}	20	V
	Emitter to base voltage	V_{EBO}	5	V
	Collector current	I_C	200	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

Electrical Characteristics (Ta=25˚C)

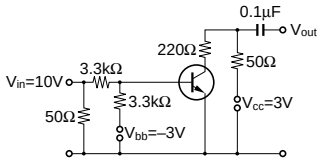
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 10V, I_E = 0			0.1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 4V, I_C = 0			0.1	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 1V, I_C = 10mA	40		200	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 10mA, I_B = 1mA		0.17	0.25	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 10mA, I_B = 1mA		0.76	1.0	V
Transition frequency	f_T	V_{CB} = 10V, I_E = –10mA, f = 200MHz		200	500	MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0, f = 1MHz		2	4	pF
Turn-on time	t_{on}	*1		17		ns
Turn-off time	t_{off}			15		ns
Storage time	t_{stg}			7		ns

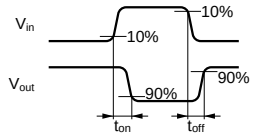
*1 Switching time measuring circuit

Note) The Part number in the Parenthesis shows conventional part number.

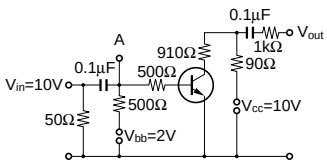
Switching time measuring circuit

t_{on}, t_{off} Test Circuit

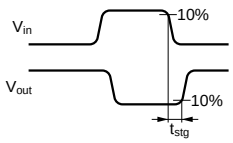




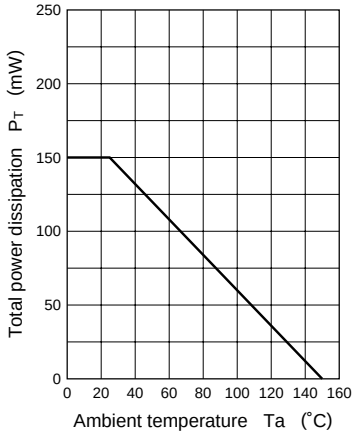
t_{stg} Test Circuit



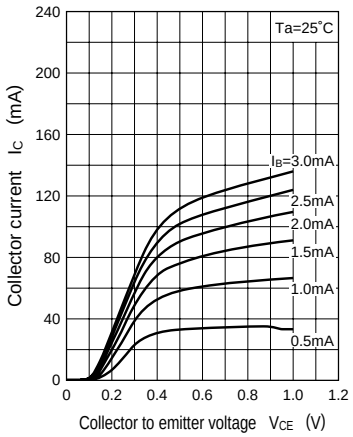
Wave form at A



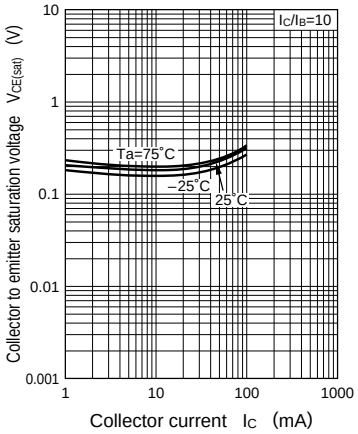
P_T — Ta



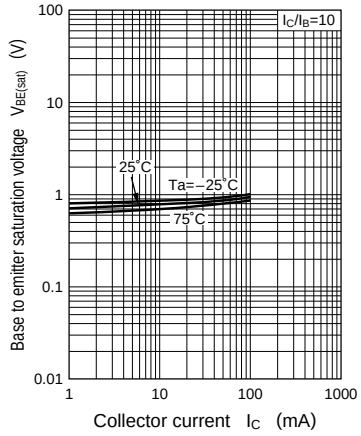
I_C — V_{CE}



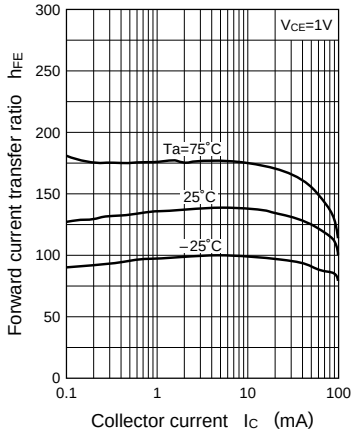
$V_{CE(sat)}$ — I_C



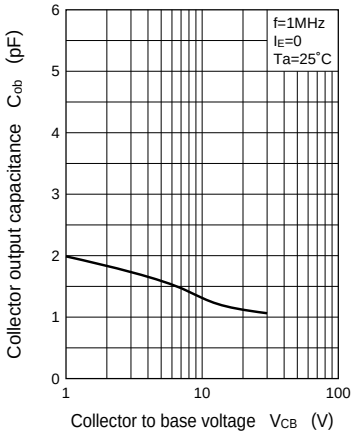
$V_{BE(sat)}$ — I_C



h_{FE} — I_C



C_{ob} — V_{CB}



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