

# XN05553 (XN5553)

## Silicon NPN epitaxial planer transistor

For amplification of the low frequency

### ■ Features

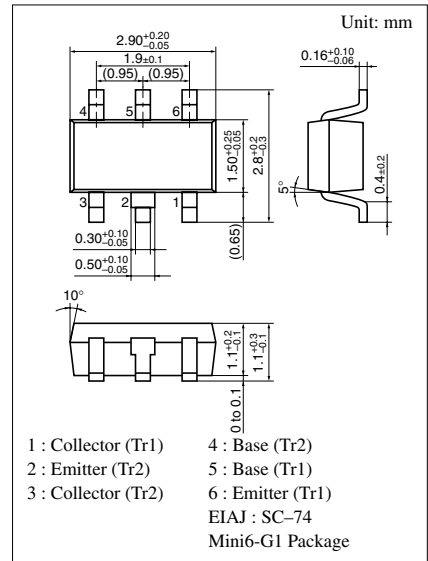
- Two elements incorporated into one package.
- Reduction of the mounting area and assembly cost by one half.

### ■ Basic Part Number of Element

- 2SD1149 × 2 elements

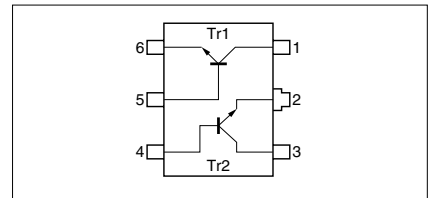
### ■ Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Ratings	Unit
Rating of element	Collector to base voltage	$V_{CBO}$	100	V
	Collector to emitter voltage	$V_{CEO}$	100	V
	Emitter to base voltage	$V_{EBO}$	15	V
	Collector current	$I_C$	20	mA
	Peak collector current	$I_{CP}$	50	mA
Overall	Total power dissipation	$P_T$	300	mW
	Junction temperature	$T_j$	150	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C



Marking Symbol: 4U

Internal Connection

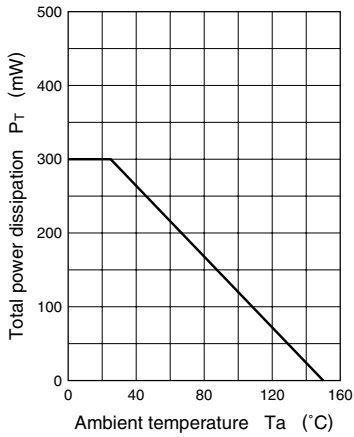


### ■ Electrical Characteristics (Ta=25°C)

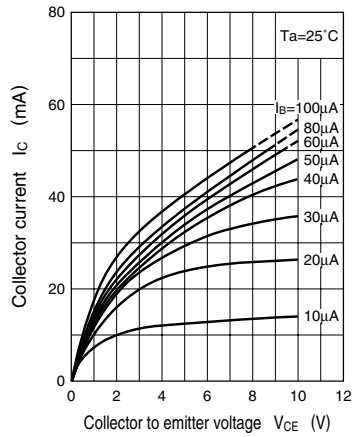
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	$V_{CBO}$	$I_C = 10\mu A, I_E = 0$	100			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	100			V
Emitter to base voltage	$V_{EBO}$	$I_E = 10\mu A, I_C = 0$	15			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 60V, I_E = 0$			0.1	$\mu A$
	$I_{CEO}$	$V_{CE} = 60V, I_B = 0$			1.0	$\mu A$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10V, I_C = 2mA$	400		2000	
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10mA, I_B = 1mA$		0.05	0.2	V
Noise voltage	NV	$V_{CE} = 10V, I_C = 1mA, G_v = 80dB, R_g = 100K\Omega, \text{Function} = \text{FLAT}$		80		mV
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -2mA, f = 200MHz$		150		MHz

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

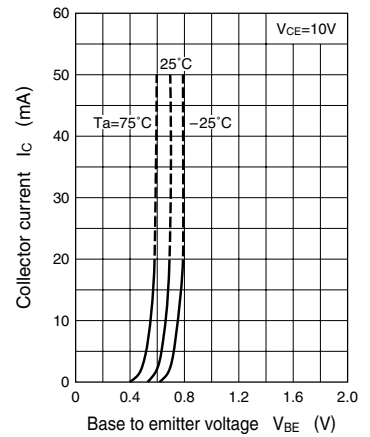
$P_T - T_a$



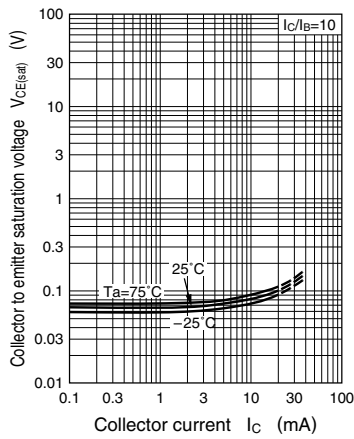
$I_C - V_{CE}$



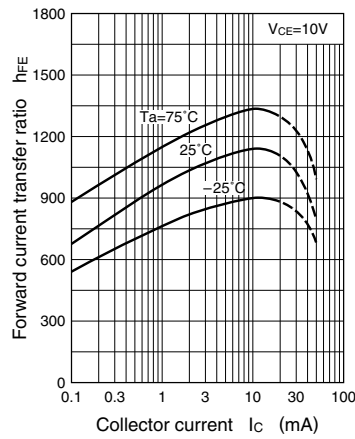
$I_C - V_{BE}$



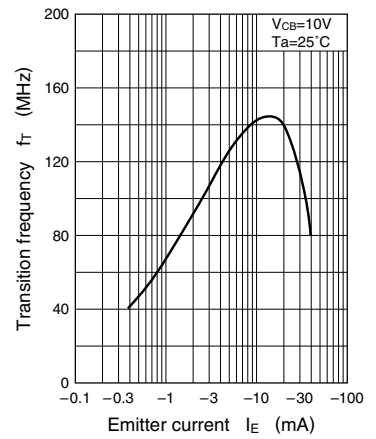
$V_{CE(sat)} - I_C$



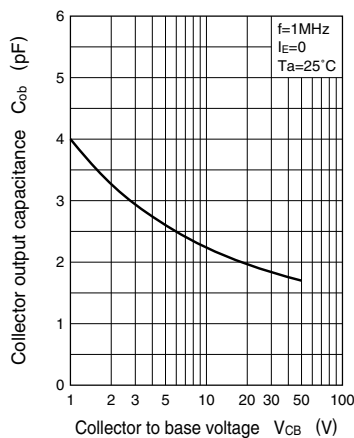
$h_{FE} - I_C$



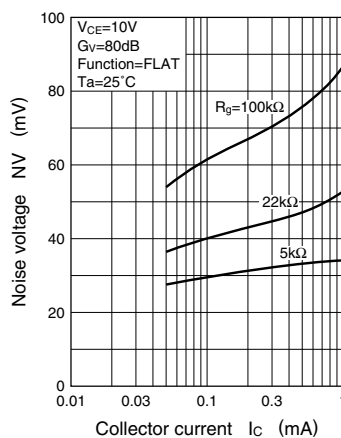
$f_T - I_E$



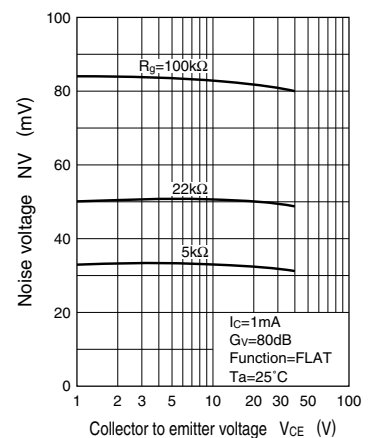
$C_{ob} - V_{CB}$



$NV - I_C$



$NV - V_{CE}$



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