

XN0611FH (XN611FH)

Silicon PNP epitaxial planer transistor

For switching/digital circuits

Features

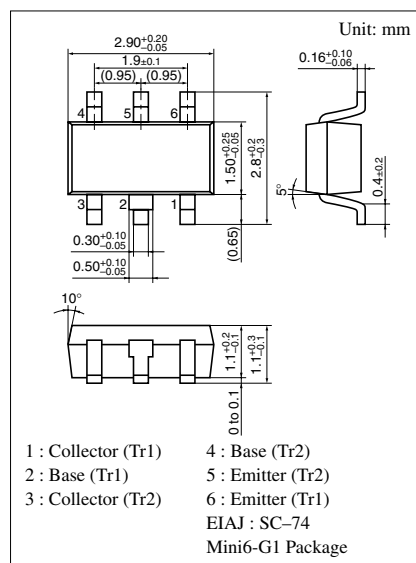
- Two elements incorporated into one package.
(Transistors with built-in resistor)
- Reduction of the mounting area and assembly cost by one half.

Basic Part Number of Element

- UNR111F(UN111F) + UNR111H(UN111H)

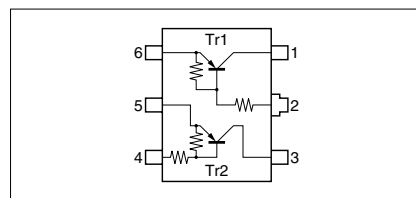
Absolute Maximum Ratings (Ta=25°C)

	Parameter	Symbol	Ratings	Unit
Tr1	Collector to base voltage	V_{CBO}	-50	V
	Collector to emitter voltage	V_{CEO}	-50	V
	Collector current	I_C	-100	mA
Tr2	Collector to base voltage	V_{CBO}	-50	V
	Collector to emitter voltage	V_{CEO}	-50	V
	Collector current	I_C	-100	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: 4S

Internal Connection



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

■ Electrical Characteristics (T_a=25°C)

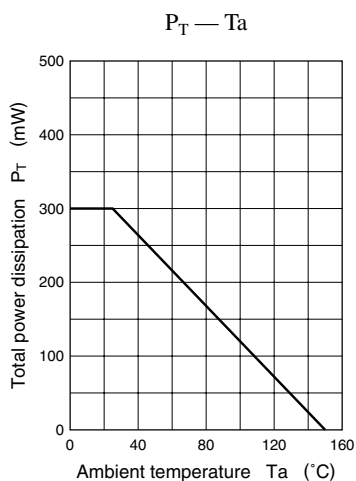
● Tr1

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V _{CBO}	I _C = -10μA, I _E = 0	-50			V
Collector to emitter voltage	V _{CEO}	I _C = -2mA, I _B = 0	-50			V
Collector cutoff current	I _{CBO}	V _{CB} = -50V, I _E = 0			- 0.1	μA
	I _{CEO}	V _{CE} = -50V, I _B = 0			- 0.5	μA
Emitter cutoff current	I _{EBO}	V _{EB} = -6V, I _C = 0			-1.0	mA
Forward current transfer ratio	h _{FE}	V _{CE} = -10V, I _C = -5mA	30			
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = -10mA, I _B = - 0.3mA			- 0.25	V
Output voltage high level	V _{OH}	V _{CC} = -5V, V _B = - 0.5V, R _L = 1kΩ	-4.9			V
Output voltage low level	V _{OL}	V _{CC} = -5V, V _B = -2.5V, R _L = 1kΩ			- 0.2	V
Transition frequency	f _T	V _{CB} = -10V, I _E = 1mA, f = 200MHz		80		MHz
Input resistance	R _I		-30%	4.7	+30%	kΩ
Resistance ratio	R _I /R ₂			0.47		

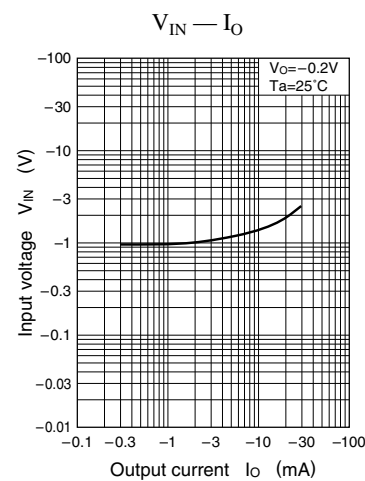
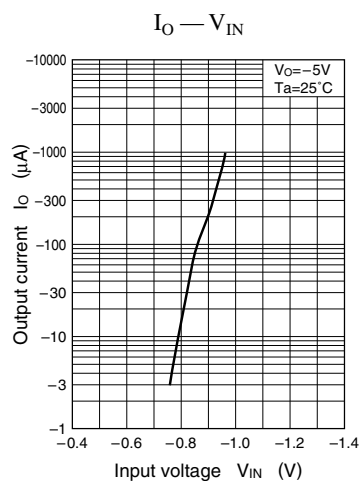
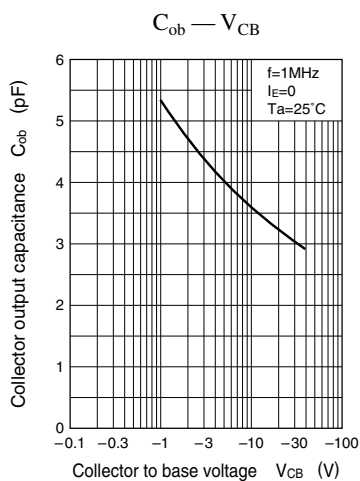
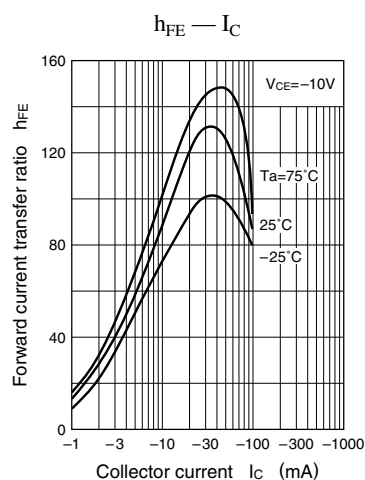
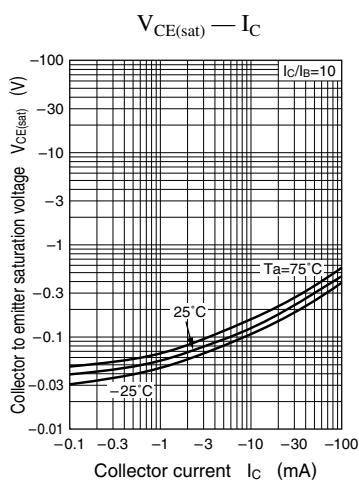
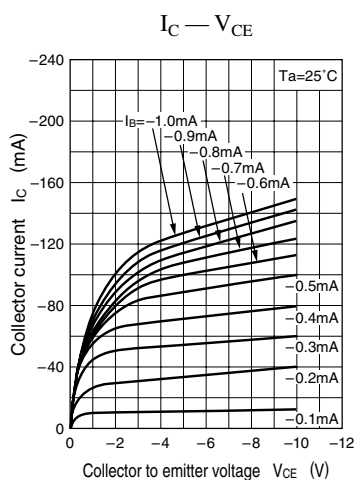
● Tr2

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V _{CBO}	I _C = -10μA, I _E = 0	-50			V
Collector to emitter voltage	V _{CEO}	I _C = -2mA, I _B = 0	-50			V
Collector cutoff current	I _{CBO}	V _{CB} = -50V, I _E = 0			- 0.1	μA
	I _{CEO}	V _{CE} = -50V, I _B = 0			- 0.5	μA
Emitter cutoff current	I _{EBO}	V _{EB} = -6V, I _C = 0			- 0.5	mA
Forward current transfer ratio	h _{FE}	V _{CE} = -10V, I _C = -5mA	30			
Collector to emitter saturation voltage	V _{CE(sat)}	I _C = -10mA, I _B = - 0.3mA			- 0.25	V
Output voltage high level	V _{OH}	V _{CC} = -5V, V _B = - 0.5V, R _L = 1kΩ	-4.9			V
Output voltage low level	V _{OL}	V _{CC} = -5V, V _B = -2.5V, R _L = 1kΩ			- 0.2	V
Transition frequency	f _T	V _{CB} = -10V, I _E = 1mA, f = 200MHz		80		MHz
Input resistance	R _I		-30%	2.2	+30%	kΩ
Resistance ratio	R _I /R ₂		0.17	0.22	0.27	

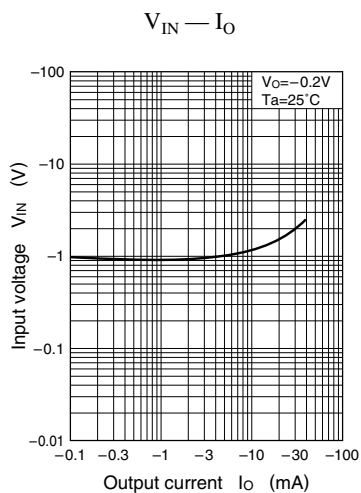
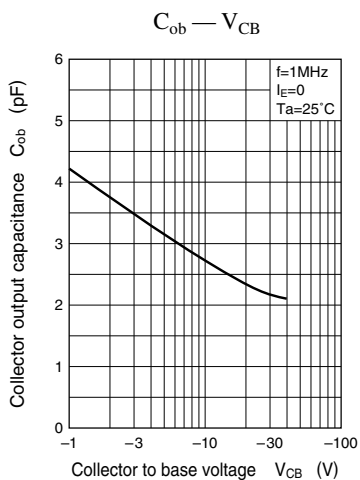
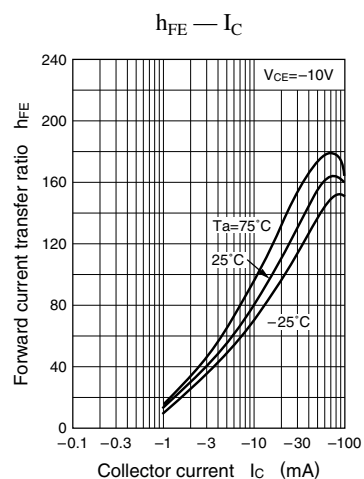
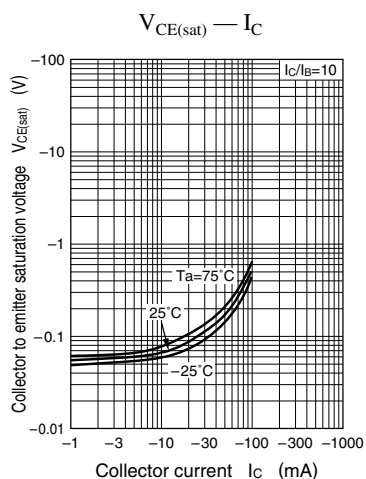
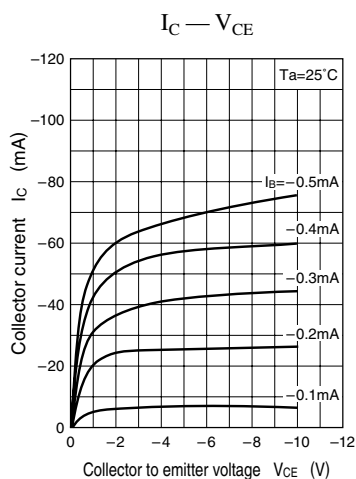
Common characteristics chart



Characteristics charts of Tr1



Characteristics charts of Tr2



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