

XN02211 (XN2211)

Silicon NPN epitaxial planer transistor

For switching/digital circuits

■ Features

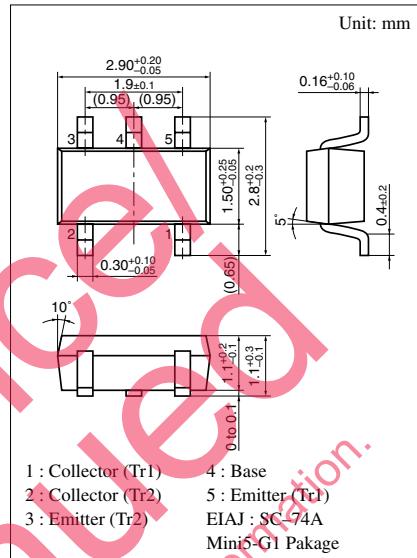
- Two elements incorporated into one package.
(Base-coupled transistors with built-in resistor)
- Reduction of the mounting area and assembly cost by one half.

■ Basic Part Number of Element

- UNR1211(UN1211) × 2 elements

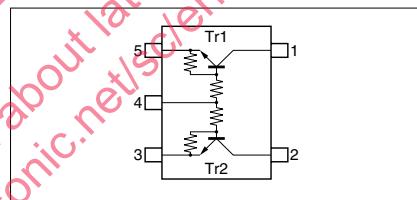
■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit
Rating of element	V _{CBO}	50	V
	V _{CEO}	50	V
	I _C	100	mA
Overall	P _T	300	mW
	T _j	150	°C
	T _{stg}	-55 to +150	°C



Marking Symbol: 90

Internal Connection

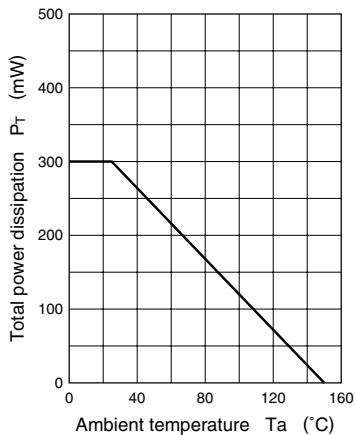
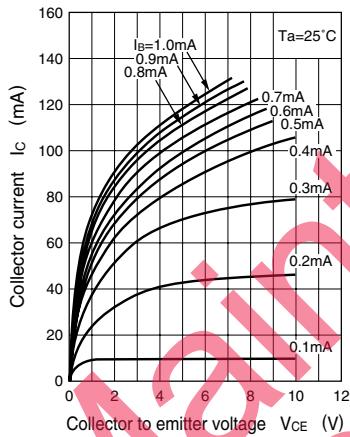
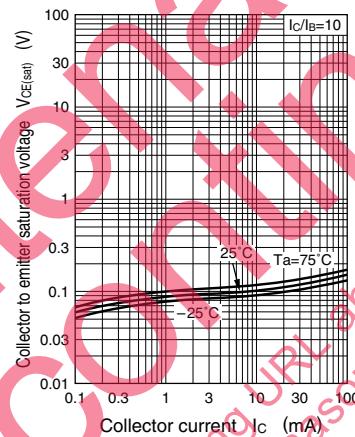
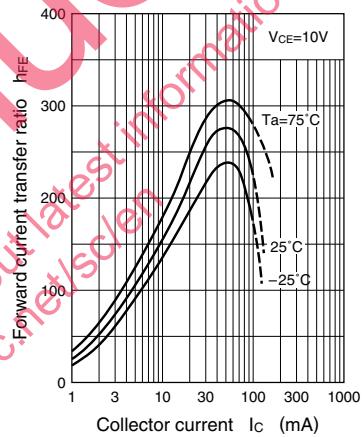
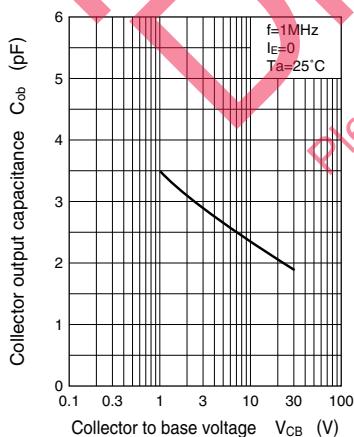
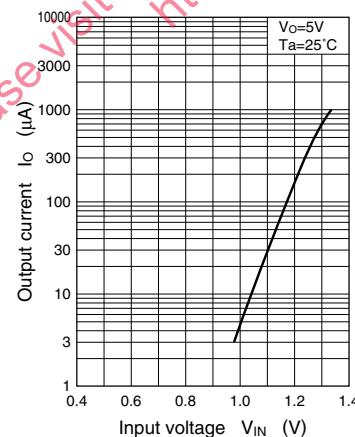
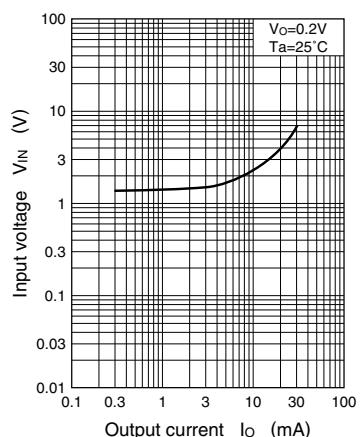


■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to base voltage	V _{CBO}	I _C = 10µA, I _B = 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 _B = 0			0.1	µA
Collector cutoff current	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	35			
Forward current transfer h _{FE} ratio	h _{FE} (small/large) ^{*1}	V _{CE} = 10V, I _C = 5mA	0.5	0.99		
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 = -2mA, f = 200MHz		150		MHz
Input resistance	R _I		-30%	10	+30%	kΩ
Resistance ratio	R _I /R ₂		0.8	1.0	1.2	

^{*1} Ratio between 2 elements

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

P_T — Ta I_C — V_{CE}  $V_{CE(sat)}$ — I_C  h_{FE} — I_C  C_{ob} — V_{CB}  I_O — V_{IN}  V_{IN} — I_O 

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