

NP041A1

Silicon PNP epitaxial planar type

For digital circuit

■ Features

- Two elements incorporated into one package (Each transistor is separated)
- SSS-Mini type 6-pin package, reduction of the mounting area and assembly cost
- Maximum package height (0.4 mm) contributes to develop thinner equipments

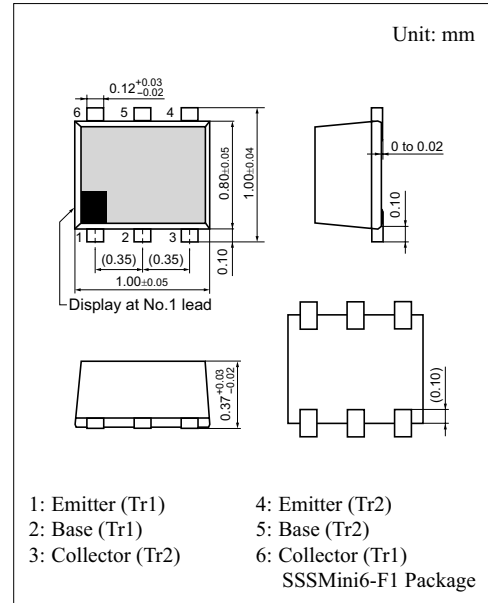
■ Basic Part Number

- UNR31A1 × 2

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

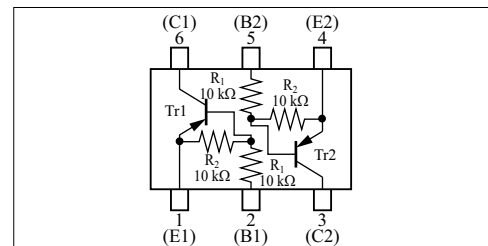
Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	-50	V
Collector-emitter voltage (Base open)	V_{CEO}	-50	V
Collector current	I_C	-80	mA
Total power dissipation *	P_T	125	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{slg}	-55 to +125	$^\circ\text{C}$

Note) * : Measuring on substrate at 17 mm × 10 mm × 1 mm



Marking Symbol: 9U

Internal Connection



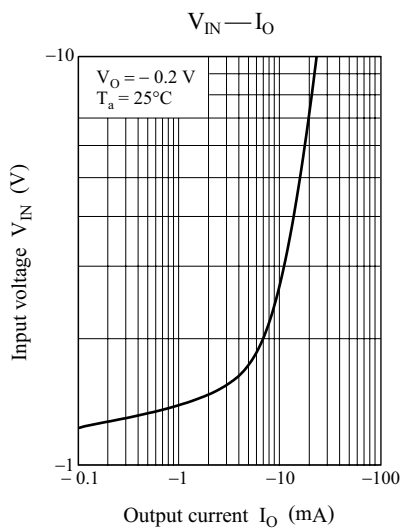
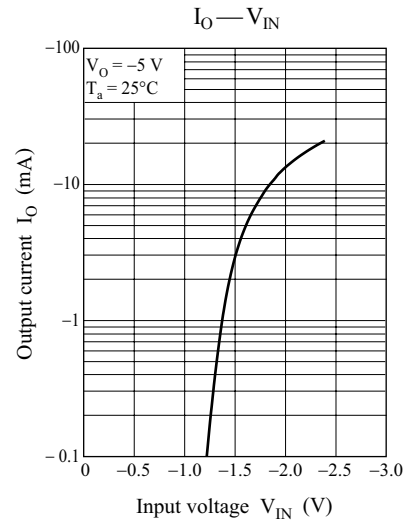
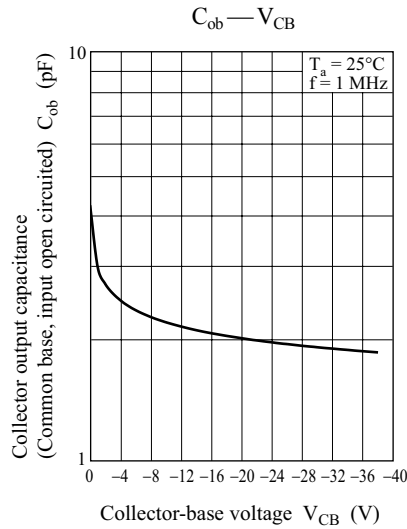
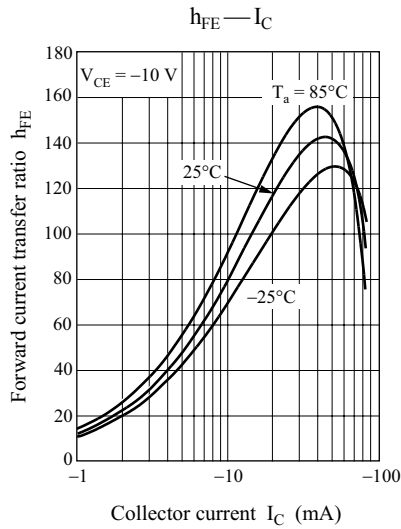
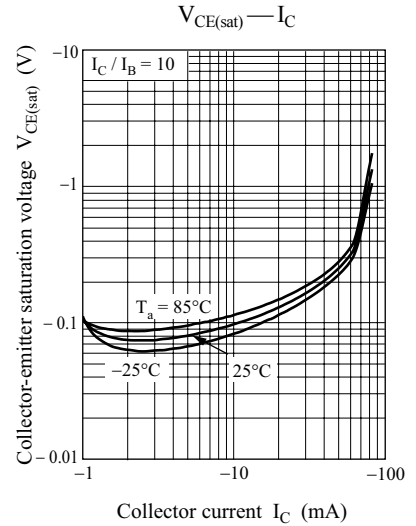
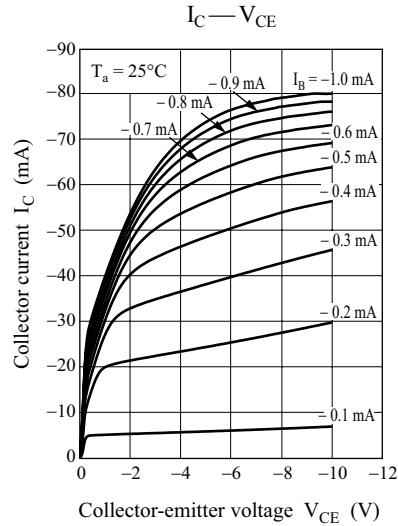
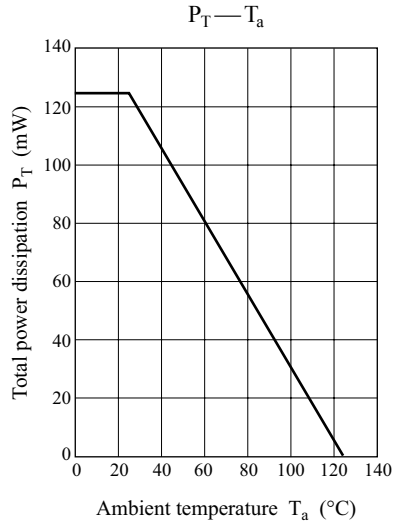
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base voltage (Emitter open)	V_{CBO}	$I_C = -10 \mu\text{A}$, $I_E = 0$	-50			V
Collector-emitter voltage (Base open) *	V_{CEO}	$I_C = -2 \text{ mA}$, $I_B = 0$	-50			V
Output voltage high-level	V_{OH}	$V_{CC} = -5 \text{ V}$, $V_B = -0.5 \text{ V}$, $R_L = 1 \text{ k}\Omega$	-4.9			V
Output voltage low-level	V_{OL}	$V_{CC} = -5 \text{ V}$, $V_B = -2.5 \text{ V}$, $R_L = 1 \text{ k}\Omega$			-0.2	V
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = -50 \text{ V}$, $I_E = 0$			-0.1	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = -50 \text{ V}$, $I_B = 0$			-0.5	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = -6 \text{ V}$, $I_C = 0$			-0.5	mA
Forward current transfer ratio	h_{FE}	$V_{CE} = -10 \text{ V}$, $I_C = -5 \text{ mA}$	35			—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -10 \text{ mA}$, $I_B = -0.3 \text{ mA}$			-0.25	V
Input resistance	R_1		-30%	10	+30%	$\text{k}\Omega$
Resistance ratio	R_1 / R_2		0.8	1.0	1.2	—
Transition frequency	f_T	$V_{CB} = -10 \text{ V}$, $I_E = 1 \text{ mA}$, $f = 200 \text{ MHz}$		80		MHz

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Pulse measurement

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