

# UNR32A0

## Silicon NPN epitaxial planar transistor

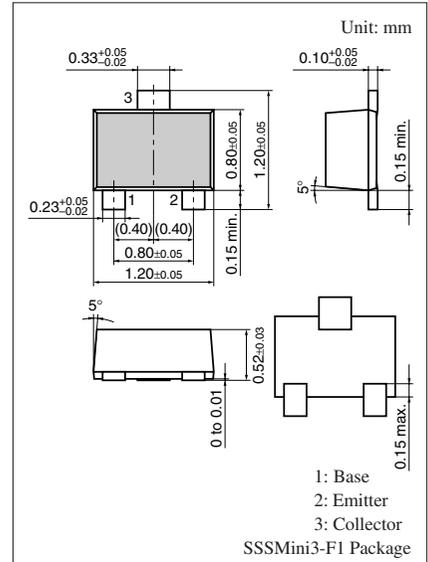
For digital circuits

### ■ Features

- Suitable for high density package and downsizing of the equipment
- Contribute to low power consumption

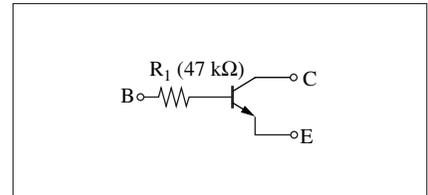
### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit	
Rating of element	Collector to base voltage	$V_{CBO}$	50	V
	Collector to emitter voltage	$V_{CEO}$	50	V
	Collector current	$I_C$	80	mA
Overall	Total power dissipation	$P_T$	100	mW
	Junction temperature	$T_j$	125	$^\circ\text{C}$
	Storage temperature	$T_{stg}$	-55 to +125	$^\circ\text{C}$



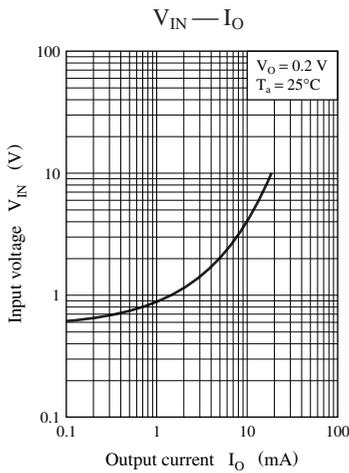
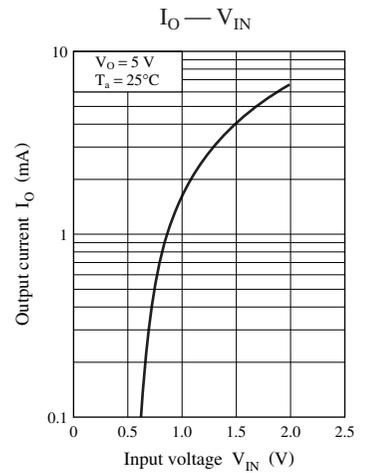
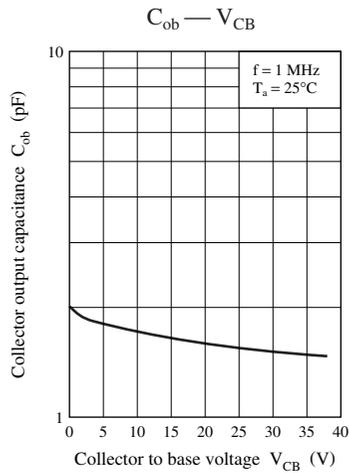
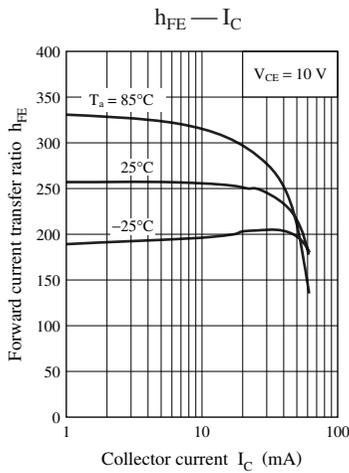
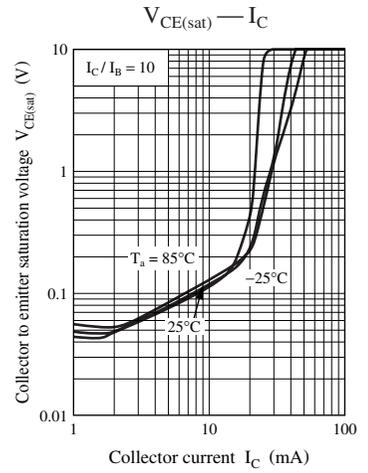
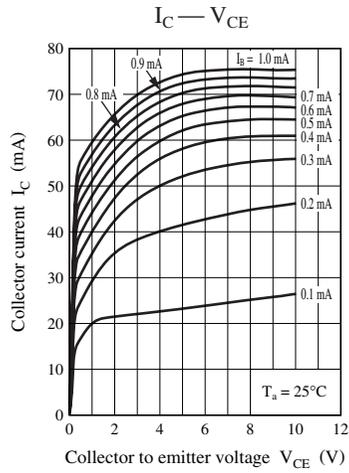
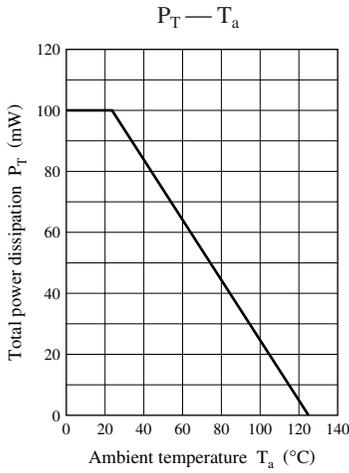
Marking Symbol: KT

Internal Connection



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	$V_{CBO}$	$I_C = 10 \mu\text{A}, I_E = 0$	50			V
Collector to emitter voltage	$V_{CEO}$	$I_C = 2 \text{ mA}, I_B = 0$	50			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50 \text{ V}, I_E = 0$			0.1	$\mu\text{A}$
	$I_{CEO}$	$V_{CE} = 50 \text{ V}, I_B = 0$			0.5	
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 6 \text{ V}, I_C = 0$			0.01	mA
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$	160		460	—
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{ mA}, I_B = 0.3 \text{ mA}$			0.25	V
High level output voltage	$V_{OH}$	$V_{CC} = 5 \text{ V}, V_B = 0.5 \text{ V}, R_L = 1 \text{ k}\Omega$	4.9			V
Low level output voltage	$V_{OL}$	$V_{CC} = 5 \text{ V}, V_B = 2.5 \text{ V}, R_L = 1 \text{ k}\Omega$			0.2	V
Input resistance	$R_i$		-30%	47	+30%	k $\Omega$
Gain bandwidth product	$f_T$	$V_{CB} = 10 \text{ V}, I_E = -2 \text{ mA}, f = 200 \text{ MHz}$		150		MHz



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