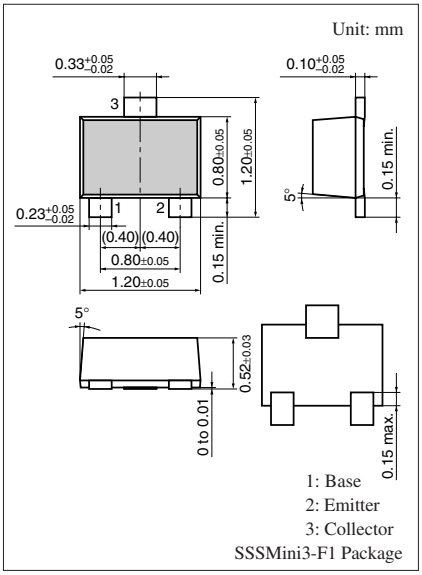
UNR32A3

Silicon NPN epitaxial planar transistor

For digital circuits

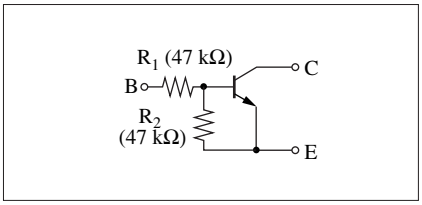
■ Features

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



Marking Symbol: FN

Internal Connection



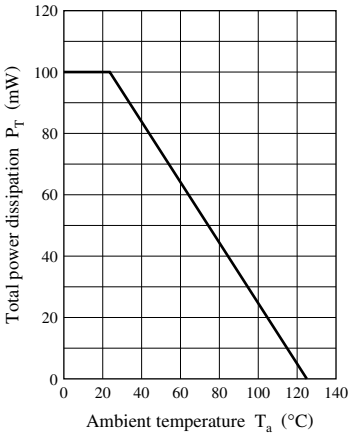
■ Absolute Maximum Ratings $T_a = 25°C$

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	°C
	Storage temperature	T_{stg}	–55 to +125	°C

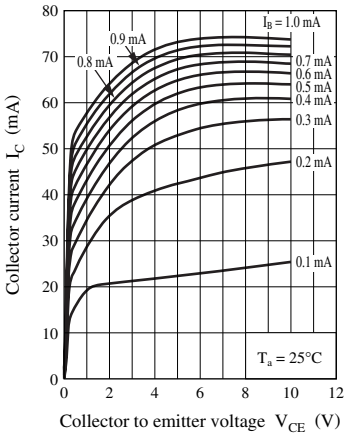
■ Electrical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector to base voltage	V_{CBO}	I_C = 10 µA, I_E = 0	50			V
Collector to emittter voltage	V_{CEO}	I_C = 2 mA, I_B = 0	50			V
Collector cutoff current	I_{CBO}	V_{CB} = 50 V, I_E = 0			0.1	µA
	I_{CEO}	V_{CE} = 50 V, I_B = 0			0.5	
Emitter cutoff current	I_{EBO}	V_{EB} = 6 V, I_C = 0			0.1	mA
Forward current transfer ratio	h_{FE}	V_{CE} = 10 V, I_C = 5 mA	80			—
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 10 mA, I_B = 0.3 mA			0.25	V
High level output voltage	V_{OH}	V_{CC} = 5 V, V_B = 0.5 V, R_L = 1 kΩ	4.9			V
Low level output voltage	V_{OL}	V_{CC} = 5 V, V_B = 3.5 V, R_L = 1 kΩ			0.2	V
Input resistance	R_1		–30%	47	+30%	kΩ
Resistance ratio	R_1 / R_2		0.8	1.0	1.2	—
Gain bandwidth product	f_T	V_{CB} = 10 V, I_E = –2 mA, f = 200 MHz		150		MHz

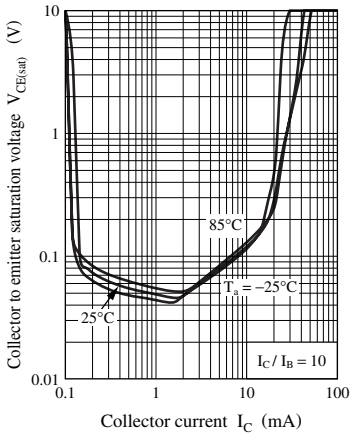
P_T — T_a



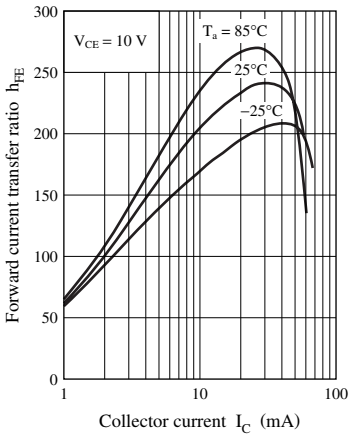
I_C — V_{CE}



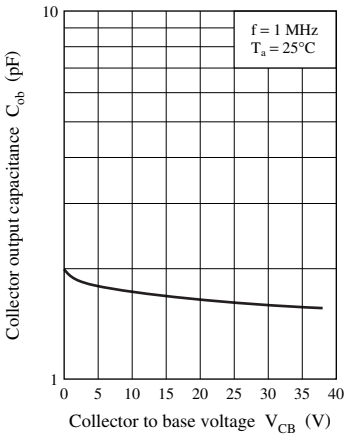
$V_{CE(sat)}$ — I_C



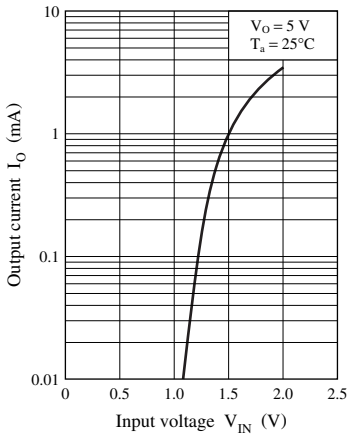
h_{FE} — I_C



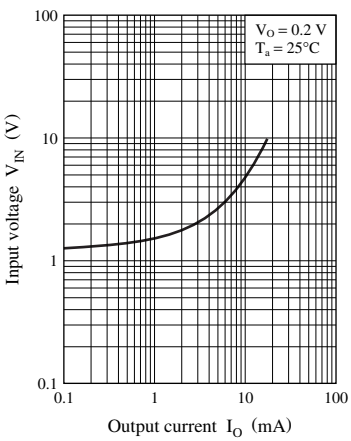
C_{ob} — V_{CB}



I_O — V_{IN}



V_{IN} — I_O



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