

UN4221/4222/4223/4224

Silicon NPN epitaxial planer transistor

For digital circuits

■ Features

- Costs can be reduced through downsizing of the equipment and reduction of the number of parts.
- New S type package, allowing supply with the radial taping.

■ Resistance by Part Number

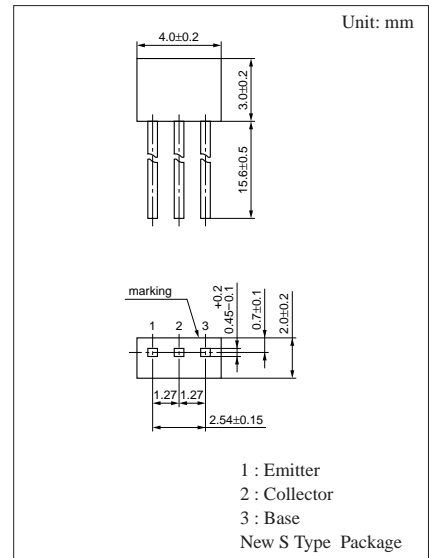
	(R ₁)	(R ₂)
• UN4221	2.2kΩ	2.2kΩ
• UN4222	4.7kΩ	4.7kΩ
• UN4223	10kΩ	10kΩ
• UN4224	2.2kΩ	10kΩ

■ Absolute Maximum Ratings (Ta=25°C)

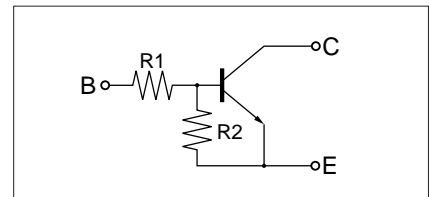
Parameter	Symbol	Ratings	Unit
Collector to base voltage	V _{CBO}	50	V
Collector to emitter voltage	V _{CEO}	50	V
Collector current	I _C	500	mA
Total power dissipation	P _T	300	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

■ Electrical Characteristics (Ta=25°C)

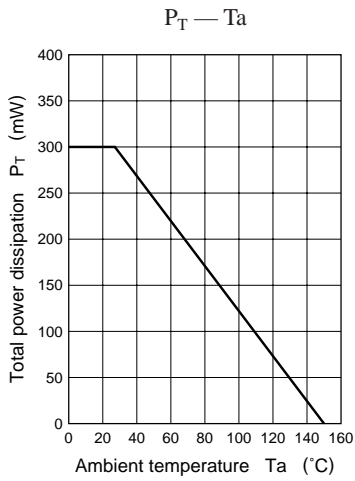
Parameter		Symbol	Conditions	min	typ	max	Unit
Collector cutoff current		I _{CBO}	V _{CB} = 50V, I _E = 0			1	μA
		I _{CEO}	V _{CE} = 50V, I _B = 0			1	μA
Emitter cutoff current	UN4221	I _{EBO}	V _{EB} = 6V, I _C = 0			5	mA
	UN4222					2	
	UN4223/4224					1	
Collector to base voltage		V _{CBO}	I _C = 10μA, I _E = 0	50			V
Collector to emitter voltage		V _{CEO}	I _C = 2mA, I _B = 0	50			V
Forward current transfer ratio	UN4221	h _{FE}	V _{CE} = 10V, I _C = 100mA	40			
	UN4222			50			
	UN4223/4224			60			
Collector to emitter saturation voltage		V _{CE(sat)}	I _C = 100mA, I _B = 5mA			0.25	V
Output voltage high level		V _{OH}	V _{CC} = 5V, V _B = 0.5V, R _L = 500Ω	4.9			V
Output voltage low level		V _{OL}	V _{CC} = 5V, V _B = 3.5V, R _L = 500Ω			0.2	V
Input resistance	UN4221/4224	R ₁			2.2		kΩ
	UN4222			(-30%)	4.7	(+30%)	
	UN4223				10		
Resistance ratio		R ₁ /R ₂		0.8	1.0	1.2	
				UN4224	0.17	0.22	



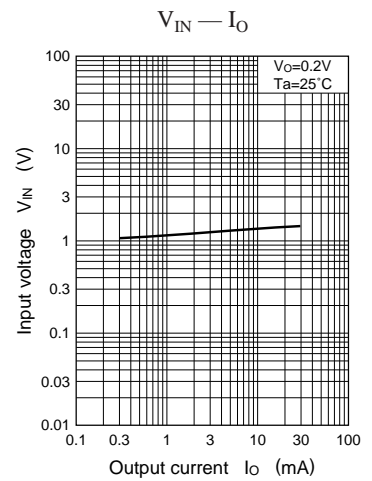
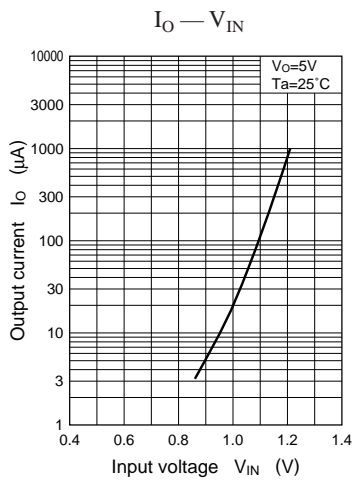
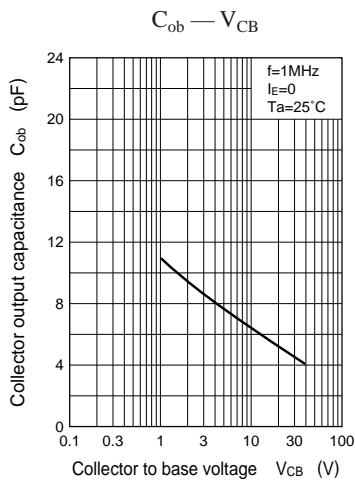
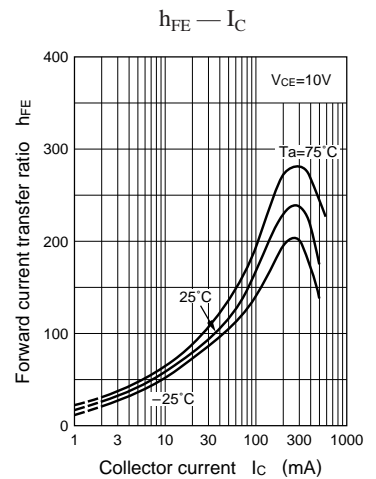
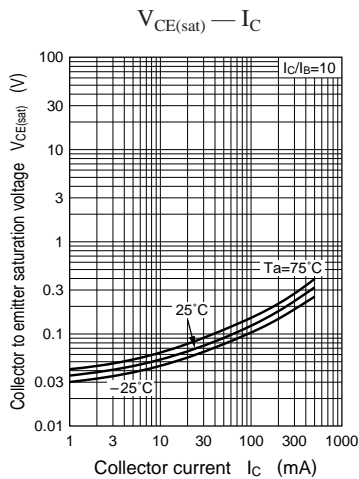
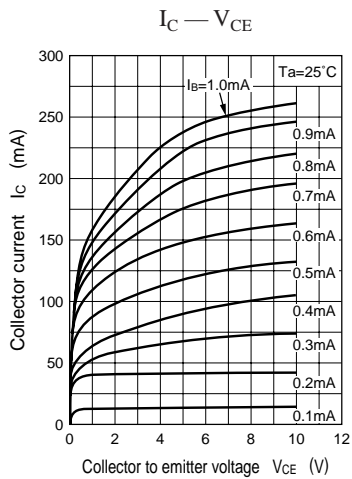
Internal Connection



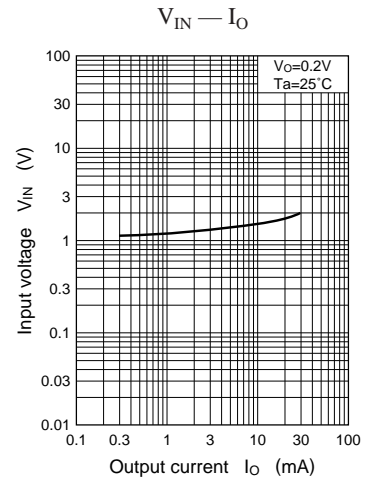
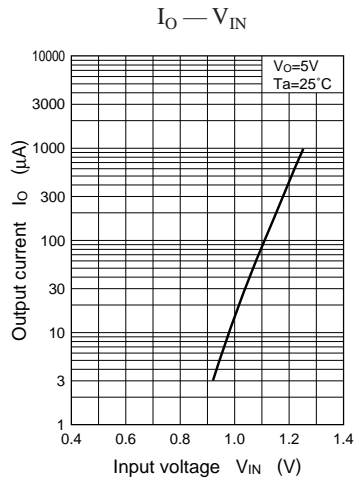
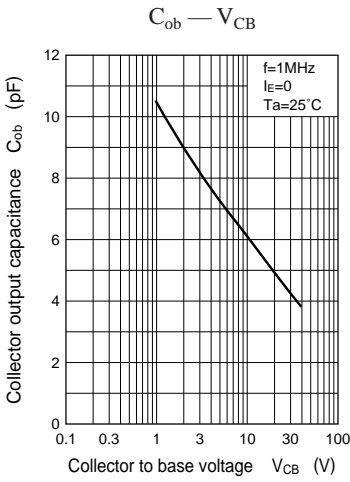
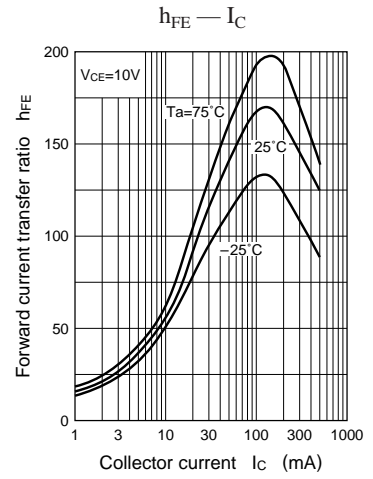
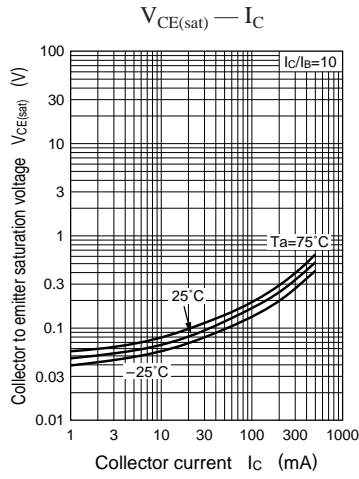
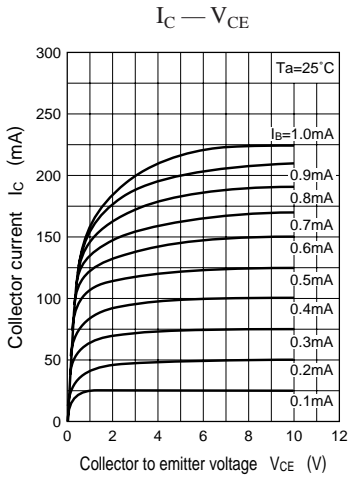
Common characteristics chart



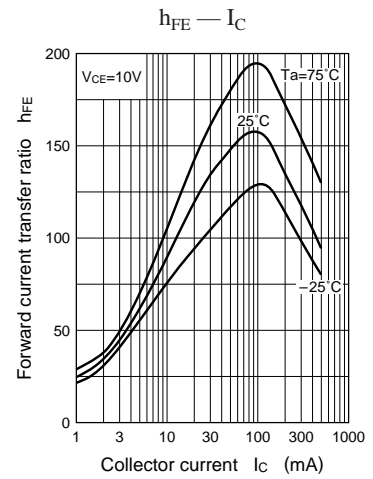
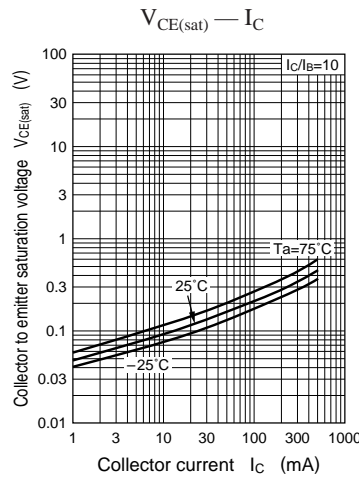
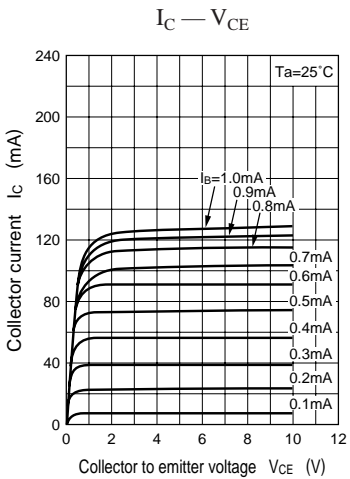
Characteristics charts of UN4221

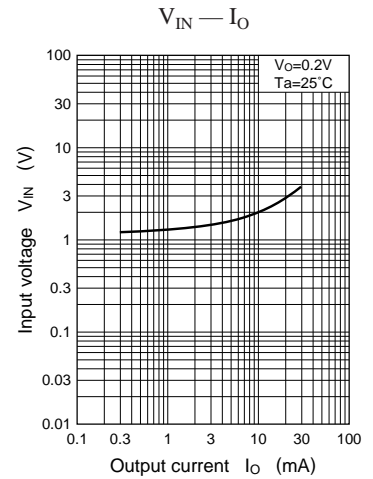
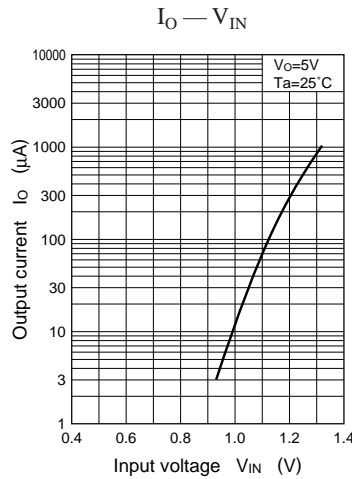
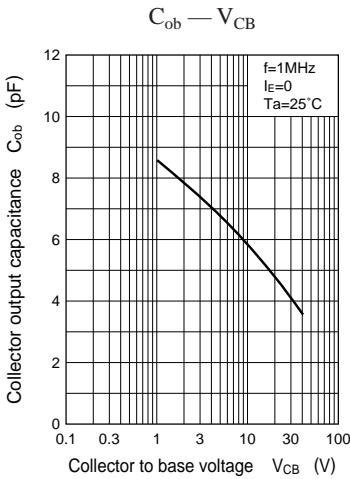


Characteristics charts of UN4222



Characteristics charts of UN4223





Characteristics charts of UN4224

