

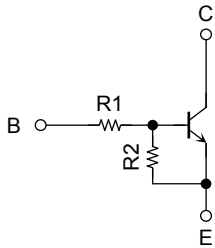
HUABAN Transistor Silicon NPN Epitaxial Type (PCT process) (Bias Resistor built-in Transistor)

3904FS

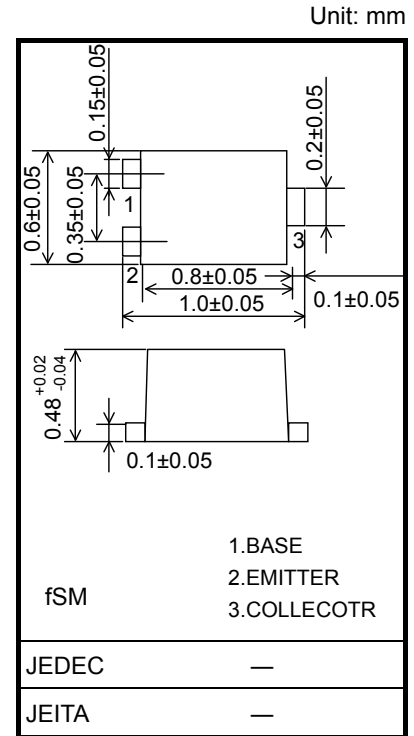
Switching, Inverter Circuit, Interface Circuit and Driver Circuit Applications

- Incorporating a bias resistor into a transistor reduces parts count. Reducing the parts count enable the manufacture of ever more compact equipment and save assembly cost.

Equivalent Circuit and Bias Resistor Values



Type No.	R1 (kΩ)	R2 (kΩ)
3904FS	4.7	47



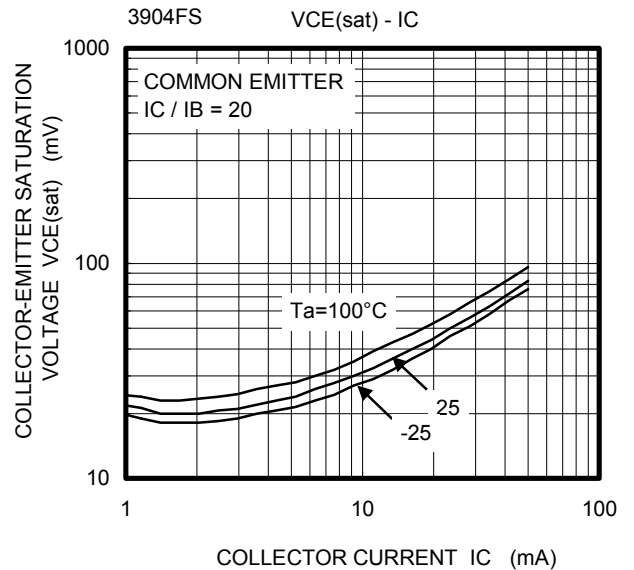
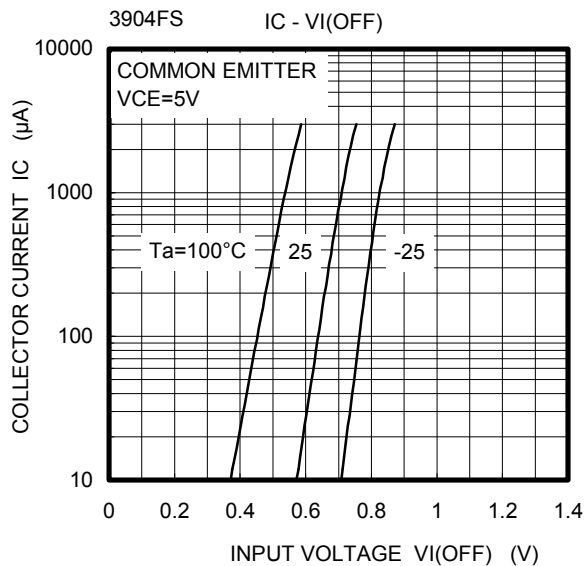
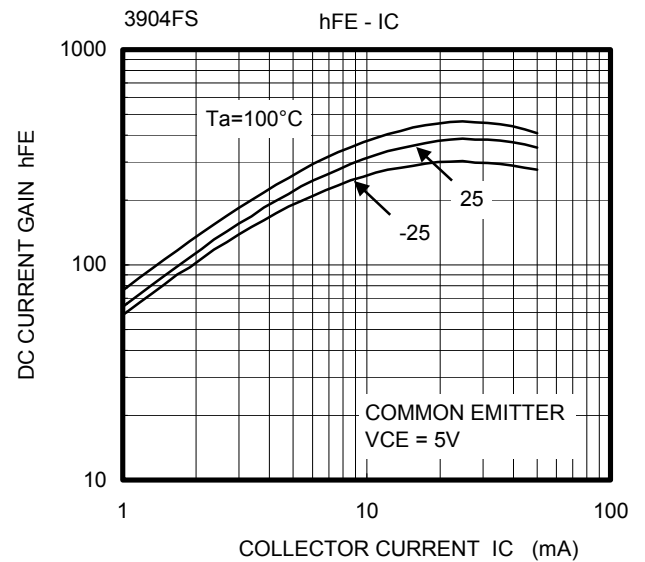
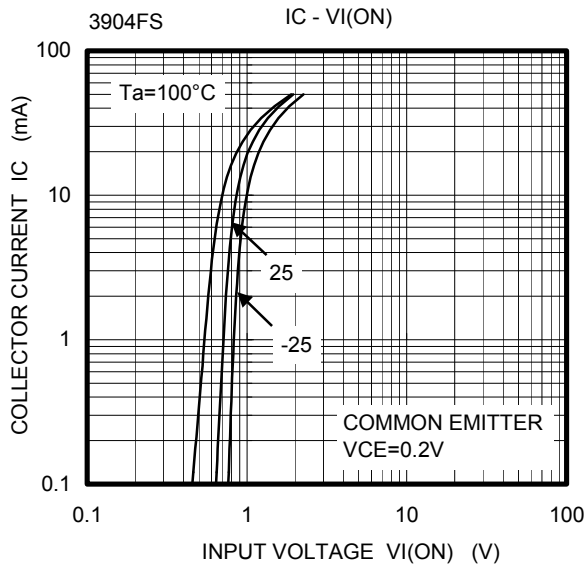
Weight: 0.0006g (typ.)

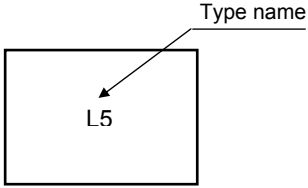
Absolute Maximum Ratings (Ta = 25°C)

Characteristics		Symbol	Rating	Unit
Collector-base voltage	RN1101FS~1106FS	V _{CBO}	20	V
Collector-emitter voltage		V _{CEO}	20	V
Emitter-base voltage	RN1101FS~1104FS	V _{EBO}	10	V
	RN1105FS, 1106FS		5	
Collector current	RN1101FS~RN1106FS	I _C	50	mA
Collector power dissipation		P _C	50	mW
Junction temperature		T _j	150	°C
Storage temperature range		T _{stg}	-55~150	°C

Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	3904FS	I_{CBO}	$V_{CB} = 20\text{ V}, I_E = 0$	—	—	100	nA
		I_{CEO}	$V_{CE} = 20\text{ V}, I_B = 0$	—	—	500	
Emitter cut-off current	3904FS	I_{EBO}	$V_{EB} = 5\text{ V}, I_C = 0$	0.08	—	0.121	mA
DC current gain	3904FS	h_{FE}	$V_{CE} = 5\text{ V}, I_C = 10\text{ mA}$	120	—	—	
Collector-emitter saturation voltage	3904FS	$V_{CE(sat)}$	$I_C = 5\text{ mA}, I_B = 0.25\text{ mA}$	—	—	0.15	V
Input voltage (ON)	3904FS	$V_{I(ON)}$	$V_{CE} = 0.2\text{ V}, I_C = 5\text{ mA}$	0.6	—	1.2	V
Input voltage (OFF)	3904FS	$V_{I(OFF)}$	$V_{CE} = 5\text{ V}, I_C = 0.1\text{ mA}$	0.4	—	0.8	V
Collector output capacitance	3904FS	C_{ob}	$V_{CB} = 10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	1.2	—	pF
Input resistor	3904FS	R1	—	3.76	4.7	5.64	kΩ
Resistor ratio	3904FS	R1/R2	—	0.08	0.1	0.12	



Type Name	Marking
RN1106FS	 <p>The diagram in the 'Marking' cell shows a rectangular box containing the text 'L5'. An arrow points from the text 'Type name' (located above and to the right of the box) to the 'L5' text inside the box.</p>