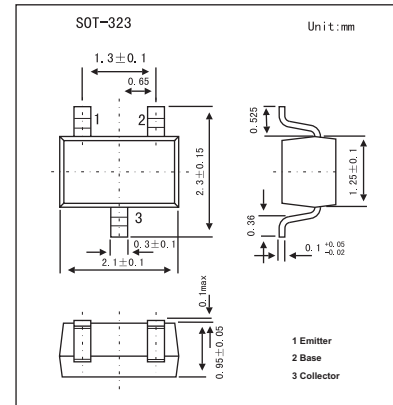


Silicon NPN Epitaxial

2SC4116

■ Features

- High voltage and high current: $V_{CE0} = 50\text{ V}$, $I_C = 150\text{ mA}$ (max).
- Excellent hFE linearity: $h_{FE}(I_C = 0.1\text{ mA})/h_{FE}(I_C = 2\text{ mA}) = 0.95$ (typ).
- High hFE: $h_{FE} = 70\sim 700$.
- Low noise: $NF = 1\text{ dB}$ (typ.), 10 dB (max).
- Small package.

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

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CB0}	60	V
Collector-emitter voltage	V_{CE0}	50	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	150	mA
Base current	I_B	30	mA
Collector power dissipation	P_C	100	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = 60\text{ V}$, $I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5\text{ V}$, $I_C = 0$			0.1	μA
DC current gain	h_{FE}	$V_{CE} = 6\text{ V}$, $I_C = 2\text{ mA}$	70		700	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100\text{ mA}$, $I_B = 10\text{ mA}$		0.1	0.25	V
Transition frequency	f_T	$V_{CE} = 10\text{ V}$, $I_C = 1\text{ mA}$	80			MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$		2.0	3.5	pF
Collector-emitter on resistance	NF	$V_{CE} = 6\text{ V}$, $I_C = 0.1\text{ mA}$, $f = 1\text{ kHz}$, $R_g = 10\text{ k}\Omega$		1.0	10	dB

■ hFE Classification

Marking	LO	LY	LG	LL
hFE	70~140	120~240	200~400	350~700