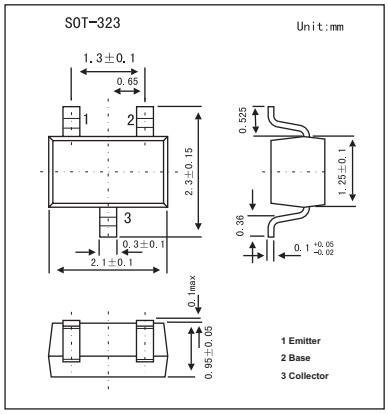
Silicon NPN Epitaxial

2SC4116



■ Features

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

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	50	V
Emitter-base voltage	V_{EBO}	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	℃
Storage temperature	T_{stg}	-55 to +125	℃

■ Electrical Characteristics Ta = 25℃

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

■ h_{FE} Classification

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