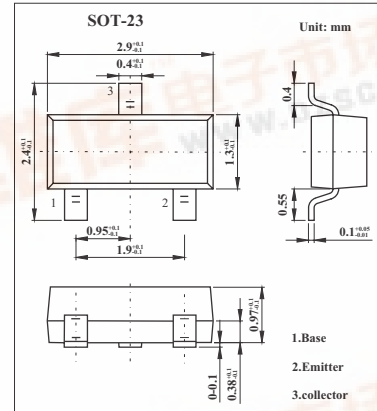


SMD Type Transistors

Power Transistor  
2SC3837K

■ Features

- High transition frequency. (Typ.  $f_T = 1.5\text{GHz}$ )
- Small  $r_{bb'}$ .Cc and high gain. (Typ. 6ps)



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	30	V
Collector-emitter voltage	V <sub>CEO</sub>	18	V
Emitter-base voltage	V <sub>EB0</sub>	3	V
Collector current	I <sub>c</sub>	50	mA
Collector power dissipation	P <sub>c</sub>	0.2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* Single pulse Pw=100ms.

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>CBO</sub>	I <sub>c</sub> =10μA	30			V
Collector-emitter breakdown voltage	V <sub>CEO</sub>	I <sub>c</sub> =1mA	18			V
Emitter-base breakdown voltage	V <sub>EB0</sub>	I <sub>E</sub> =10μA	3			V
Collector cutoff current	I <sub>CBO</sub>	V <sub>CB</sub> =20V			0.5	μA
Emitter cutoff current	I <sub>EBO</sub>	V <sub>EB</sub> =10V			0.5	μA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> /I <sub>b</sub> =20mA/4mA			0.5	V
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>c</sub> =10mA	56		180	
Collector-base time constant	r <sub>bb'</sub> .Cc	V <sub>CB</sub> = 10V , I <sub>c</sub> = 10mA , f = 31.8MHz		6	13	ps
Noise factor	NF	V <sub>CE</sub> =12V,I <sub>c</sub> =2mA,f=200MHz,R <sub>g</sub> =50 Ω		4.5		dB
Output capacitance *	C <sub>ob</sub>	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz		0.9	1.5	pF
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> = 10mA, f=200MHz	600	1500		MHz

\* Measured using pulse current.

■ hFE Classification

Marking	ACN	ACP
Rank	N	P
hFE	56~120	82~180

