

Transistors

High-Frequency Amplifier Transistor (18V, 50mA, 1.5GHz)

2SC5661 / 2SC4725 / 2SC4082 / 2SC3837K

●Features

- 1) High transition frequency. (Typ. $f_r = 1.5\text{GHz}$)
- 2) Small $r_{bb'}$ ·Cc and high gain. (Typ. 6ps)
- 3) Small NF.

● Absolute maximum ratings (Ta=25°C)

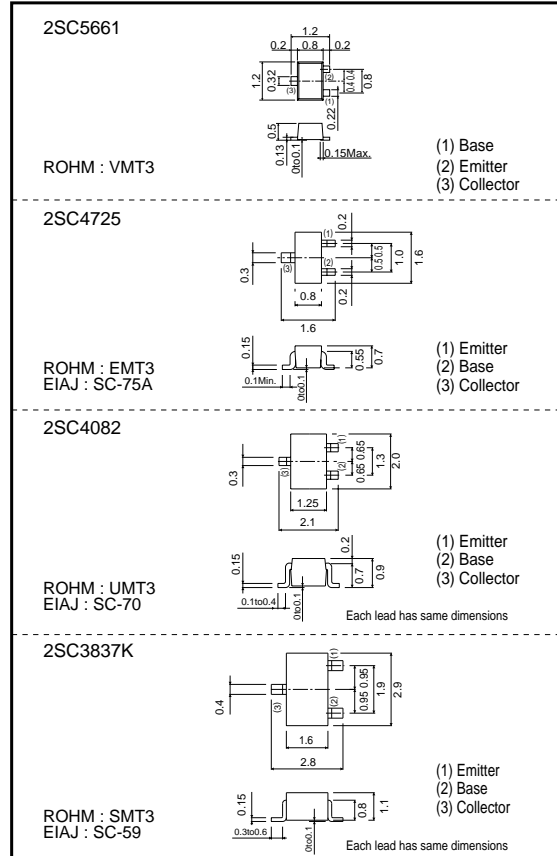
Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	30	V
Collector-emitter voltage	V _{CE0}	18	V
Emitter-base voltage	V _{EB0}	3	V
Collector current	I _c	50	mA
Collector power dissipation	P _c	0.15	W
		0.2	
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

●Packaging specifications and hFE

Type	2SC5661	2SC4725	2SC4082	2SC3837K
Package	VMT3	EMT3	UMT3	SMT3
hFE	NP	NP	NP	NP
Marking	AC*	AC*	1C*	AC*
Code	T2L	TL	T106	T146
Basic ordering unit (pieces)	8000	3000	3000	3000

* Denotes hFE

●External dimensions (Units : mm)



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	30	-	-	V	I _c = 10μA
Collector-emitter breakdown voltage	BV _{CE0}	18	-	-	V	I _c = 1mA
Emitter-base breakdown voltage	BV _{EB0}	3	-	-	V	I _E = 10μA
Collector cutoff current	I _{cbo}	-	-	0.5	μA	V _{CB} = 10V
Emitter cutoff current	I _{ebo}	-	-	0.5	μA	V _{EB} = 2V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.5	V	I _c /I _B = 20mA/4mA
DC current transfer ratio	h _{FE}	56	-	180	-	V _{CE} /I _c = 10V/10mA
Transition frequency	f _r	600	1500	-	MHz	V _{CB} = 10V, I _c = 10mA, f = 200MHz
Output capacitance	C _{ob}	-	0.9	1.5	pF	V _{CB} = 10V, I _E = 0A, f = 1MHz
Collector-base time constant	r _{bb'} ·C _c	-	6	13	ps	V _{CB} = 10V, I _c = 10mA, f = 31.8MHz
Noise factor	NF	-	4.5	-	dB	V _{CE} = 12V, I _c = 2mA, f = 200MHz, R _g = 50Ω