

# High-frequency Amplifier Transistor (25V, 50mA, 300MHz)

## 2SC5659 / 2SC4618 / 2SC4098 / 2SC2413K / 2SC2058S

### ●Features

- 1) Low collector capacitance. (Cob : Typ. 1.3pF)
- 2) Low rbb, high gain, and excellent noise characteristics.

### ●Absolute maximum ratings (Ta=25°C)

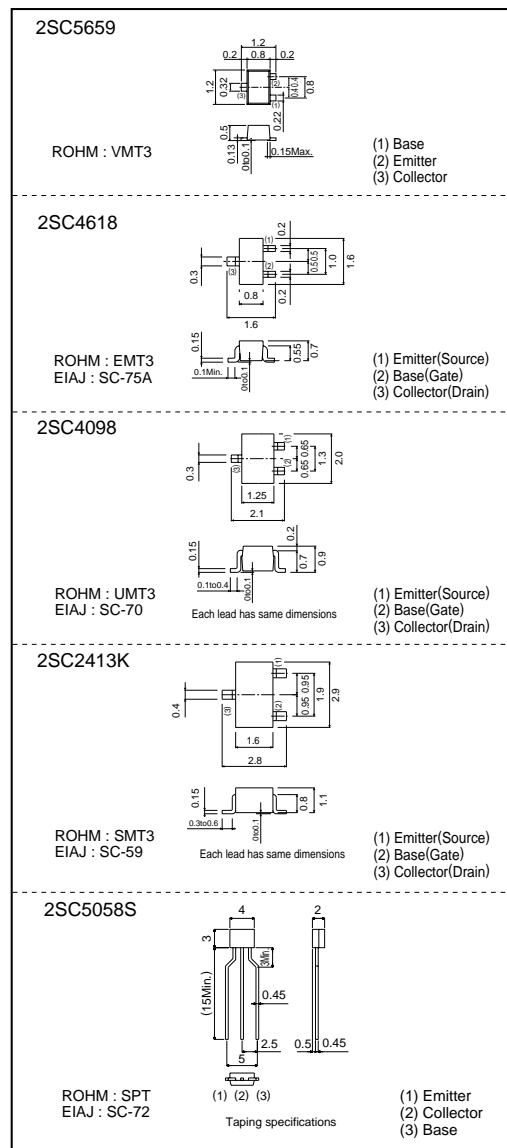
Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	40	V
Collector-emitter voltage	V <sub>CE0</sub>	25	V
Emitter-base voltage	V <sub>EB0</sub>	5	V
Collector current	I <sub>c</sub>	50	mA
Collector power dissipation	P <sub>c</sub>	0.15	W
		0.2	
		0.3	
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

### ●Packaging specifications and hFE

Type	2SC5659	2SC4618	2SC4098	2SC2413K	2SC2058S
Package	VMT3	EMT3	UMT3	SMT3	SPT
hFE	NPQ	NPQ	NPQ	NPQ	P
Marking	A*	A*	A*	A*	-
Code	T2L	TL	T106	T146	TP
Basic ordering unit (pieces)	8000	3000	3000	3000	5000

\* Denotes hFE

### ●External dimensions (Units : mm)



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2SC2413 / 2SC2058S

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV <sub>CB0</sub>	40	-	-	V	I <sub>c</sub> =50μA	
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	25	-	-	V	I <sub>c</sub> =1mA	
Emitter-base breakdown voltage	BV <sub>EB0</sub>	5	-	-	V	I <sub>e</sub> =50μA	
Collector cutoff current	I <sub>cBO</sub>	-	-	0.5	μA	V <sub>CB</sub> =24V	
Emitter cutoff current	I <sub>eBO</sub>	-	-	0.5	μA	V <sub>EB</sub> =3V	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	0.1	0.3	V	I <sub>c</sub> /I <sub>e</sub> =10mA/1mA	
DC current transfer ratio	2SC5659, 2SC4618, 2SC4098, 2SC2413K 2SC2058S	h <sub>FE</sub>	56	-	270	-	V <sub>CE</sub> =6V, I <sub>c</sub> =1mA
			82	-	180		
Transition frequency	f <sub>r</sub>	150	300	-	MHz	V <sub>CE</sub> =6V, I <sub>e</sub> =-1mA, f=100MHz	
Output capacitance	C <sub>ob</sub>	-	1.3	2.2	pF	V <sub>CB</sub> =6V, I <sub>e</sub> =0A, f=1MHz	