

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 _{CB0}	40	V
Collector-emitter voltage	V _{CE0}	25	V
Emitter-base voltage	V _{EB0}	5	V
Collector current	I _c	50	mA
Collector power dissipation	P _c	0.15	W
		0.2	
		0.3	
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-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)

<p>2SC5659</p> <p>ROHM : VMT3</p> <p>(1) Base (2) Emitter (3) Collector</p>
<p>2SC4618</p> <p>ROHM : EMT3 EIAJ : SC-75A</p> <p>(1) Emitter(Source) (2) Base(Gate) (3) Collector(Drain)</p>
<p>2SC4098</p> <p>ROHM : UMT3 EIAJ : SC-70</p> <p>Each lead has same dimensions</p> <p>(1) Emitter(Source) (2) Base(Gate) (3) Collector(Drain)</p>
<p>2SC2413K</p> <p>ROHM : SMT3 EIAJ : SC-59</p> <p>Each lead has same dimensions</p> <p>(1) Emitter(Source) (2) Base(Gate) (3) Collector(Drain)</p>
<p>2SC5058S</p> <p>ROHM : SPT EIAJ : SC-72</p> <p>Taping specifications</p> <p>(1) Emitter (2) Collector (3) Base</p>

2SC5659 / 2SC4618 / 2SC4098 /
2SC2413 / 2SC2058S

Transistors

●Electrical characteristics (Ta=25°C)

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