

# High-Frequency Amplifier Transistor (11V, 50mA, 3.2GHz)

**2SC5662 / 2SC4726 / 2SC4083 /  
2SC3838K / 2SC4043S**

●Features

- 1) High transition frequency. (Typ.  $f_T = 1.5\text{GHz}$ )
- 2) Small  $r_{bb'}$ ·Cc and high gain. (Typ. 4ps)
- 3) Small NF.

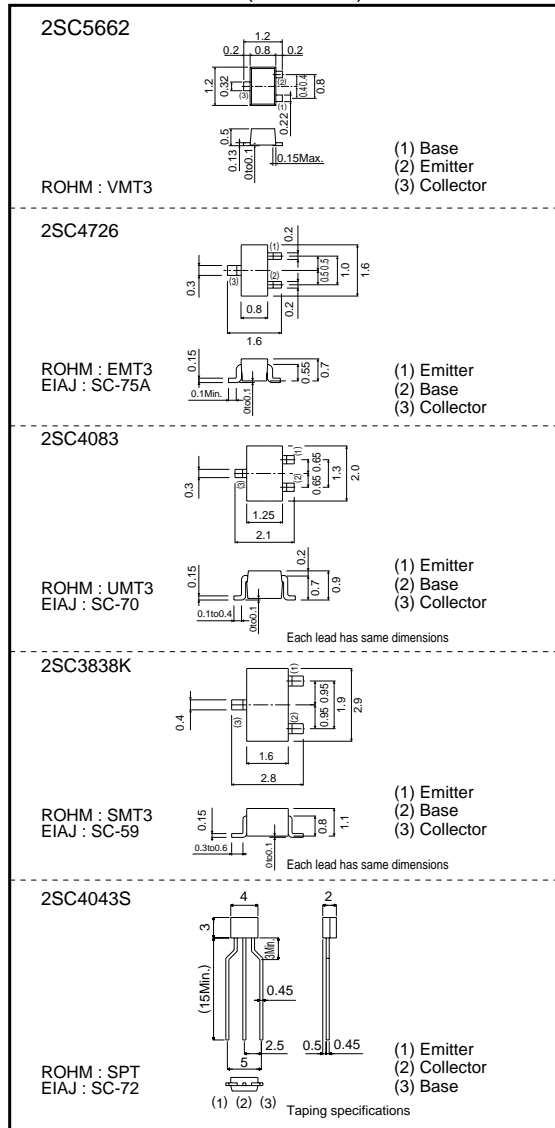
●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	20	V
Collector-emitter voltage	V <sub>CE0</sub>	11	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>	0.15	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	2SC5662	2SC4726	2SC4083	2SC3838K	2SC4043S
Package	VMT3	EMT3	UMT3	SMT3	SPT
hFE	NP	NP	NP	NP	P
Marking	AD	AD	1D	AD	-
Code	T2L	TL	T106	T146	TP
Basic ordering unit (pieces)	8000	3000	3000	3000	5000

●External dimensions (Units : mm)



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Transistors

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV <sub>CB0</sub>	20	–	–	V	I <sub>c</sub> = 10μA	
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	11	–	–	V	I <sub>c</sub> = 1mA	
Emitter-base breakdown voltage	BV <sub>EB0</sub>	3	–	–	V	I <sub>E</sub> = 10μA	
Collector cutoff current	I <sub>CB0</sub>	–	–	0.5	μA	V <sub>CB</sub> = 10V	
Emitter cutoff current	I <sub>EB0</sub>	–	–	0.5	μA	V <sub>EB</sub> = 2V	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	–	–	0.5	V	I <sub>c</sub> /I <sub>E</sub> = 10mA/5mA	
DC current transfer ratio	2SC5662, 2SC4726, 2SC4083, 2SC3838K	h <sub>FE</sub>	56	–	180	–	V <sub>CE</sub> /I <sub>c</sub> = 10V/5mA
	2SC4043S		82	–	180		
Transition frequency	f <sub>T</sub>	1.4	3.2	–	GHz	V <sub>CE</sub> = 10V, I <sub>E</sub> = 10mA, f = 500MHz	
Output capacitance	C <sub>ob</sub>	–	0.8	1.5	pF	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0A, f = 1MHz	
Collector-base time constant	τ <sub>cb</sub> -C <sub>c</sub>	–	4	12	ps	V <sub>CB</sub> = 10V, I <sub>c</sub> = 10mA, f = 31.8MHz	
Noise factor	NF	–	3.5	–	dB	V <sub>CE</sub> = 6V, I <sub>c</sub> = 2mA, f = 500MHz, R <sub>g</sub> = 50Ω	

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