

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

2SC5662 / 2SC4726 / 2SC4083 / 2SC3838K

●Features

- 1) High transition frequency. (Typ. $f_T = 3.2\text{GHz}$)
- 2) Small $r_{bb'}$ ·Cc and high gain. (Typ. 4ps)
- 3) Small NF.

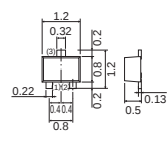
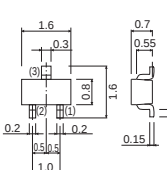
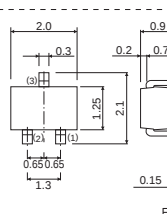
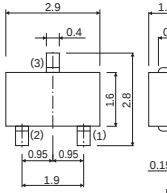
●Packaging specifications and h_{FE}

Type	2SC5662	2SC4726	2SC4083	2SC3838K
Package	VMT3	EMT3	UMT3	SMT3
h_{FE}	NP	NP	NP	NP
Marking	AD	AD	1D	AD
Code	T2L	TL	T106	T146
Basic ordering unit (pieces)	8000	3000	3000	3000

●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	20	V
Collector-emitter voltage	V_{CEO}	11	V
Emitter-base voltage	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	0.15 0.2	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

●Dimensions (Unit : mm)

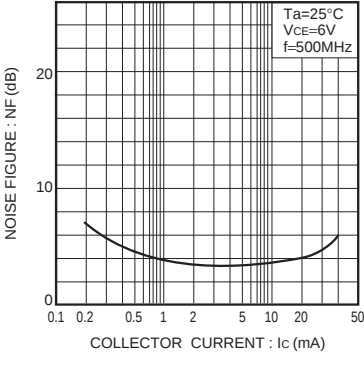
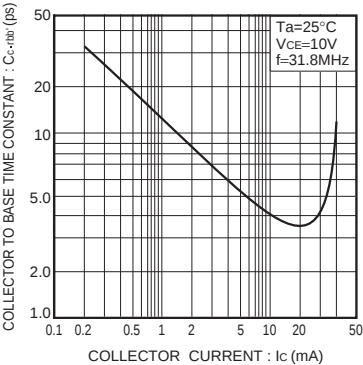
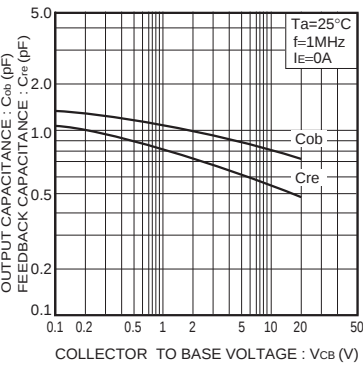
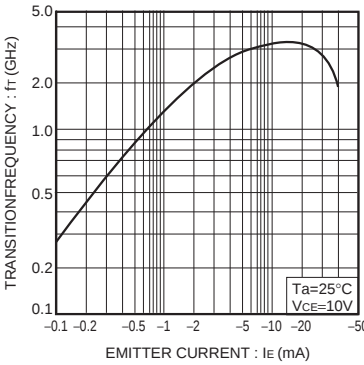
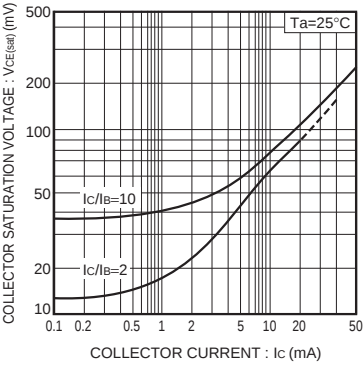
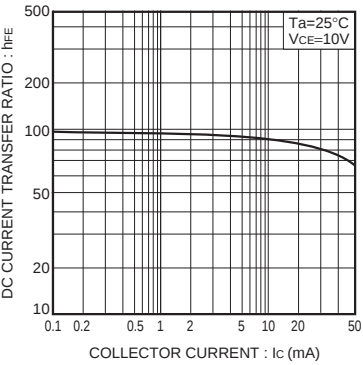
2SC5662  ROHM : VMT3 (1) Base (2) Emitter (3) Collector	2SC4726  ROHM : EMT3 EIAJ : SC-75A (1) Emitter (2) Base (3) Collector	2SC4083  ROHM : UMT3 EIAJ : SC-70 (1) Emitter (2) Base (3) Collector Each lead has same dimensions	2SC3838K  ROHM : SMT3 EIAJ : SC-59 (1) Emitter (2) Base (3) Collector Each lead has same dimensions
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●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	20	—	—	V	$I_C = 10\mu\text{A}$
Collector-emitter breakdown voltage	BV_{CEO}	11	—	—	V	$I_C = 1\text{mA}$
Emitter-base breakdown voltage	BV_{EBO}	3	—	—	V	$I_E = 10\mu\text{A}$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 10\text{V}$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB} = 2\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.5	V	$I_C/I_B = 10\text{mA}/5\text{mA}$
DC current transfer ratio	h_{FE}	56	—	180	—	$V_{CE}/I_C = 10\text{V}/5\text{mA}$
Transition frequency	f_T	1.4	3.2	—	GHz	$V_{CE} = 10\text{V}$, $I_E = -10\text{mA}$, $f = 500\text{MHz}$
Output capacitance	C_{ob}	—	0.8	1.5	pF	$V_{CB} = 10\text{V}$, $I_E = 0\text{A}$, $f = 1\text{MHz}$
Collector-base time constant	$r_{bb'}$ ·Cc	—	4	12	ps	$V_{CB} = 10\text{V}$, $I_C = 10\text{mA}$, $f = 31.8\text{MHz}$
Noise factor	NF	—	3.5	—	dB	$V_{CE} = 6\text{V}$, $I_C = 2\text{mA}$, $f = 500\text{MHz}$, $R_g = 50\Omega$

This product might cause chip aging and breakdown under the large electrified environment.
Please consider to design ESD protection circuit.

●Electric characteristics curves



Notes

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