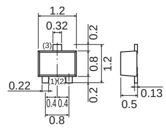
High-Frequency Amplifier Transistor(11V, 50mA, 3.2GHz)

2SC5662 / 2SC4726 /2SC4083 / 2SC3838K

●Features
1) High transition frequency. (Typ. f_T= 3.2GHz)
2) Small rbb'·Cc and high gain. (Typ. 4ps)
3) Small NF.

●Dimensions (Unit : mm)

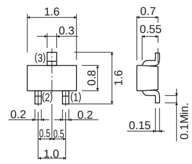
2SC5662



ROHM : VMT3

(1) Base
(2) Emitter
(3) Collector

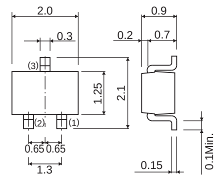
2SC4726



ROHM : EMT3
EIAJ : SC-75A

(1) Emitter
(2) Base
(3) Collector

2SC4083

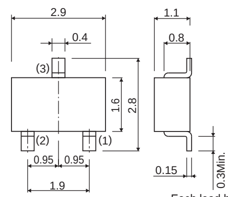


ROHM : UMT3
EIAJ : SC-70

(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

●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 (Ta=25°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	2SC5662, 2SC4726	P_C	0.15	W
	2SC4083, 2SC3838K		0.2	
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

●Absolute maximum ratings (Ta=25°C)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage		BV_{CBO}	20	–	–	V	I_C = 10μA
Collector-emitter breakdown voltage		BV_{CEO}	11	–	–	V	I_C = 1mA
Emitter-base breakdown voltage		BV_{EBO}	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 = 10mA/5mA
DC current transfer ratio	2SC5662, 2SC4726, 2SC4083, 2SC3838K	h_{FE}	56	–	180	–	V_{CE}/I_C = 10V/5mA
Transition frequency		f_T	1.4	3.2	–	GHz	V_{CE} = 10V , I_E = −10mA , f = 500MHz
Output capacitance		Cob	–	0.8	1.5	pF	V_{CB} = 10V , I_E = 0A , f = 1MHz
Collector-base time constant		$r_{bb'}$·Cc	–	4	12	ps	V_{CB} = 10V , I_C = 10mA , f = 31.8MHz
Noise factor		NF	–	3.5	–	dB	V_{CE} = 6V , I_C = 2mA , f = 500MHz , Rg = 50Ω

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

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●Electric characteristics curves

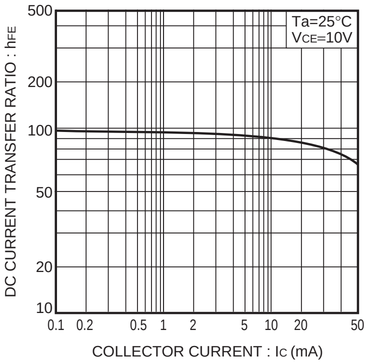

Fig.1 DC current gain vs. collector current

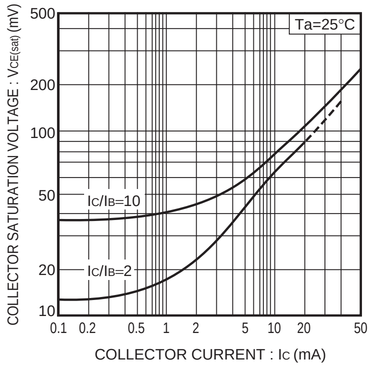

Fig.2 Collector-emitter saturation voltage vs. collector current

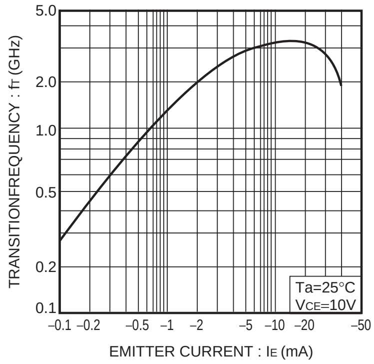

Fig.3 Gain bandwidth product vs. emitter current

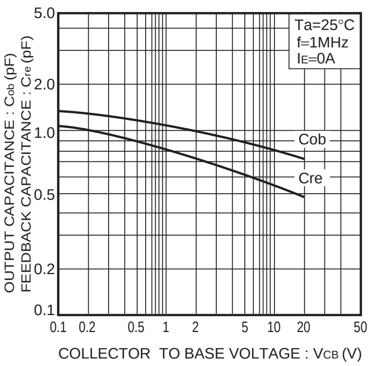

Fig.4 Capacitance vs. reverse bias voltage

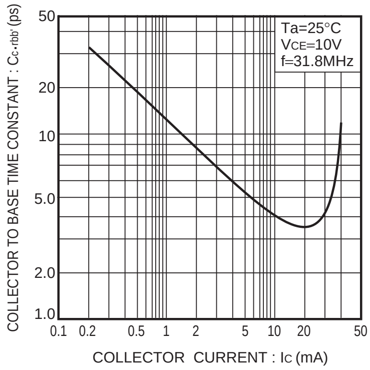

Fig.5 Collector to base time constance vs. collector current

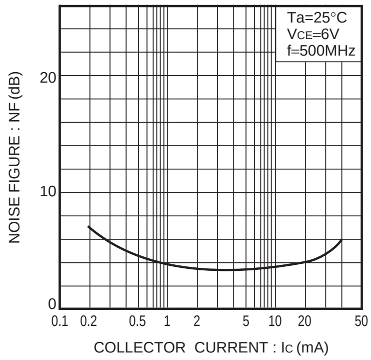

Fig.6 Noisfactor vs. collector current characteristics

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Notes

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