

High frequency amplifier transistor, RF switching (6V, 50mA)

2SC4774 / 2SC4713K

●Features

- 1) Very low output-on resistance (Ron).
- 2) Low capacitance.

●Absolute maximum ratings (Ta=25°C)

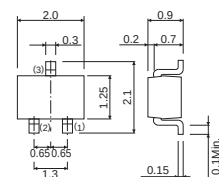
Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	12	V
Collector-emitter voltage	V _{CE0}	6	V
Emitter-base voltage	V _{EB0}	3	V
Collector current	I _c	50	mA
Collector power dissipation	P _c	0.2	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

●Packaging specifications and h_{FE}

Type	2SC4774	2SC4713K
Package	UMT3	SMT3
h _{FE}	S	S
Marking	BM*	BM*
Code	T106	T146
Basic ordering unit (pieces)	3000	3000

*Denotes h_{FE}

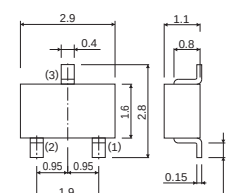
●Dimensions (Unit : mm)

2SC4774


Each lead has same dimensions

ROHM : UMT3
EIAJ : SC-70

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

2SC4713K


Each lead has same dimensions

ROHM : SMT3
EIAJ : SC-59

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

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	12	—	—	V	I _c =10μA
Collector-emitter breakdown voltage	BV _{CE0}	6	—	—	V	I _c =1mA
Emitter-base breakdown voltage	BV _{EB0}	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)}	—	—	0.3	V	I _c /I _B =10mA/1mA
DC current transfer ratio	h _{FE}	180	—	560	—	V _{CE} /I _c =5V/5mA
Transition frequency	f _r	300	800	—	MHz	V _{CE} =5V, I _E =-10mA, f=200MHz
Output capacitance	C _{ob}	—	1	1.7	pF	V _{CB} =10V, I _E =0A, f=1MHz
Output-on resistance	R _{on}	—	2	—	Ω	I _B =3mA, V _I =100mVrms, f=500kHz

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

●Electrical characteristic curves

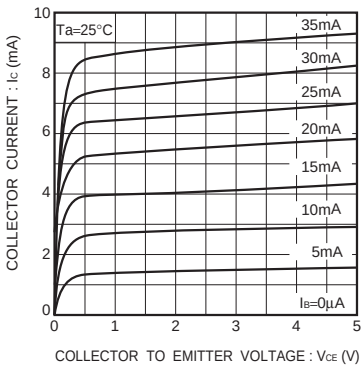


Fig.1 Grounded emitter output characteristics (I)

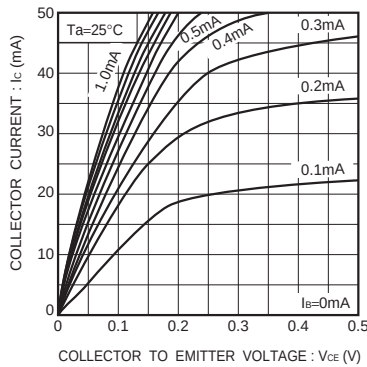


Fig.2 Grounded emitter output characteristics (II)

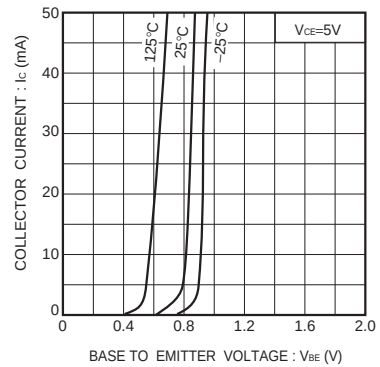


Fig.3 Grounded emitter propagation characteristics

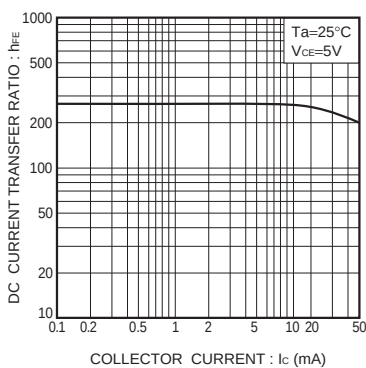


Fig.4 DC current gain vs. collector current

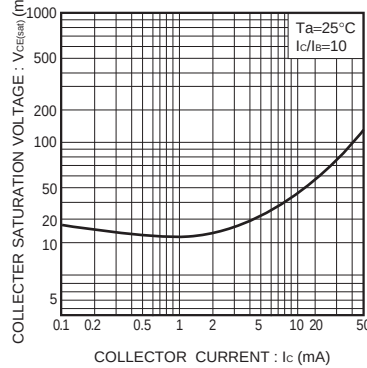


Fig.5 Collector-emitter saturation voltage vs. collector current

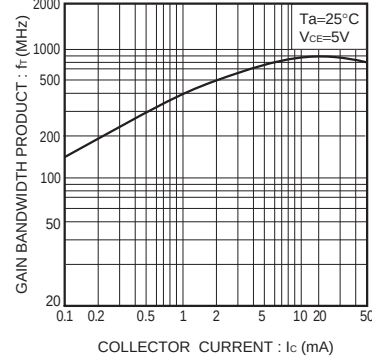


Fig.6 Gain bandwidth product vs. collector current

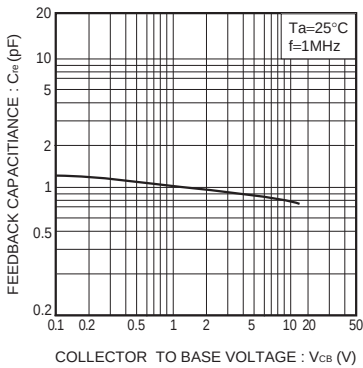


Fig.7 Collector output capacitance vs. voltage

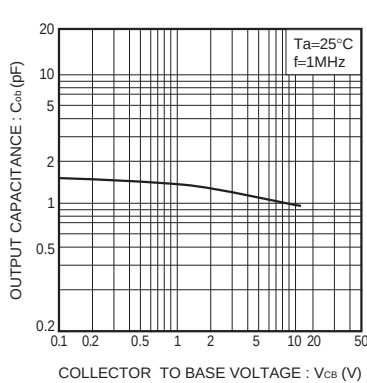


Fig.8 Back capacitance voltage

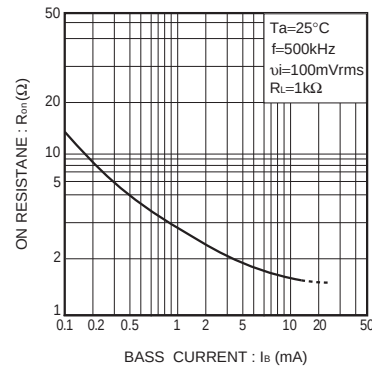


Fig.9 Output-on resistance vs. base current

Notes

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