

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

2SC4774 / 2SC4713K

●Features

- 1) Very low output-on resistance (R_{on}).
- 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

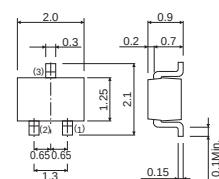
●Packaging specifications and h_{FE}

Type	2SC4774	2SC4713K
Package	UMT3	SMT3
hFE	S	S
Marking	BM*	BM*
Code	T106	T146
Basic ordering unit (pieces)	3000	3000

*Denotes h_{EE}

●Dimensions (Unit : mm)

2SC4774

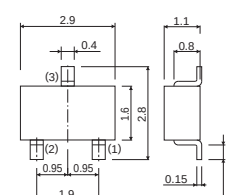


Each lead has same dimensions

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_{CBO}	12	—	—	V	$I_C=10\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	6	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	3	—	—	V	$I_E=10\mu A$
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	$I_C/I_E=10mA/1mA$
DC current transfer ratio	h_{FE}	180	—	560	—	$V_{CE}/I_C=5V/5mA$
Transition frequency	f_T	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

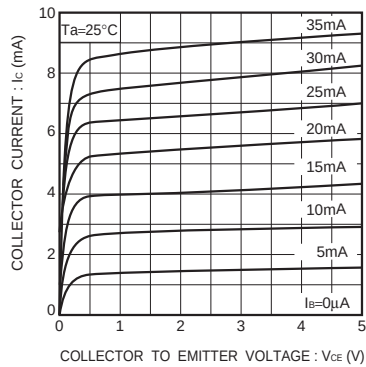


Fig.1 Grounded emitter output characteristics (I)

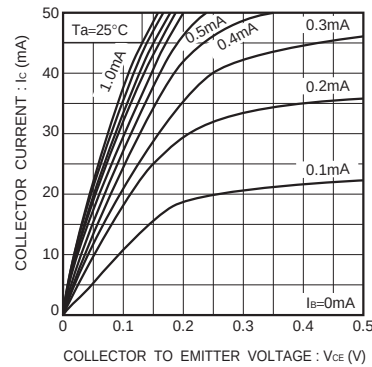


Fig.2 Grounded emitter output characteristics (II)

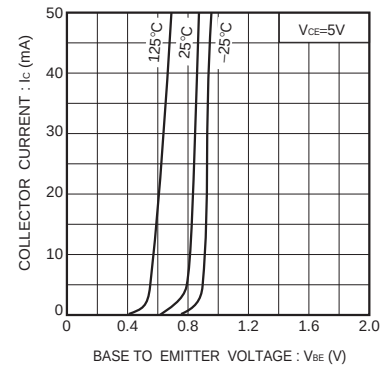


Fig.3 Grounded emitter propagation characteristics

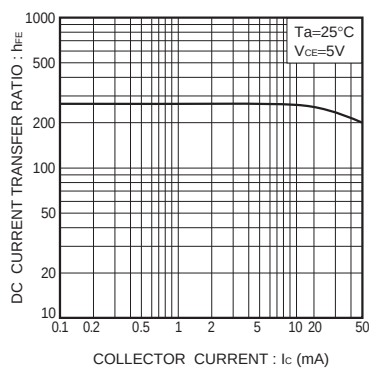


Fig.4 DC current gain vs. collector current

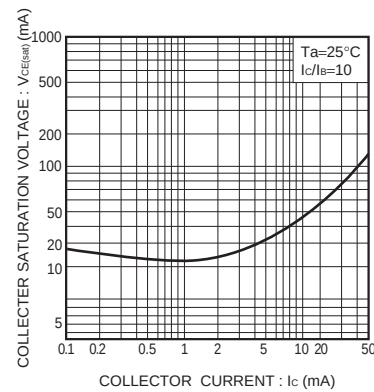


Fig.5 Collector-emitter saturation voltage vs. collector current

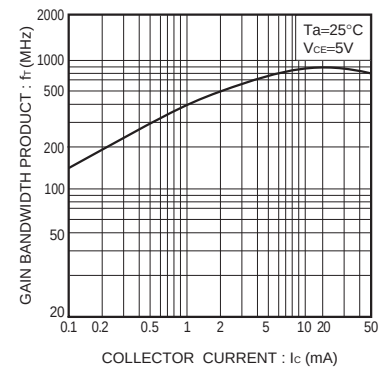


Fig.6 Gain bandwidth product vs. collector current

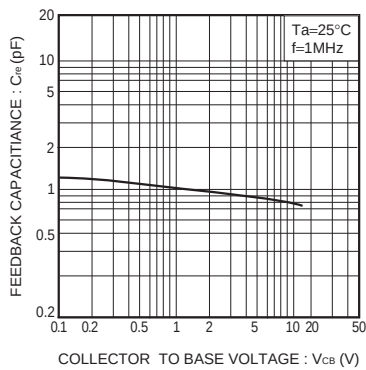


Fig.7 Collector output capacitance vs. voltage

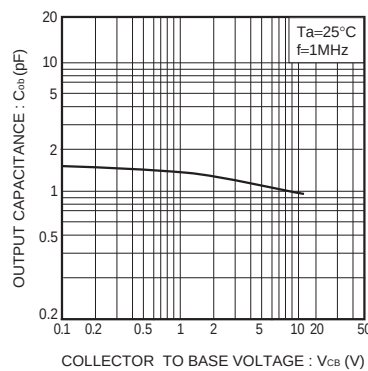


Fig.8 Back capacitance voltage

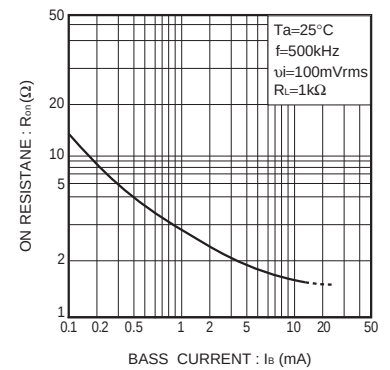


Fig.9 Output-on resistance vs. base current

Notes

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