

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 |

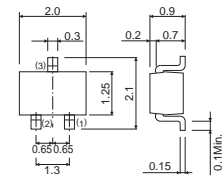
●Packaging specifications and h_{FE}

| 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

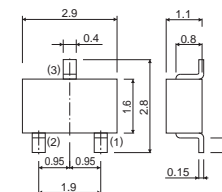


Each lead has same dimensions

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

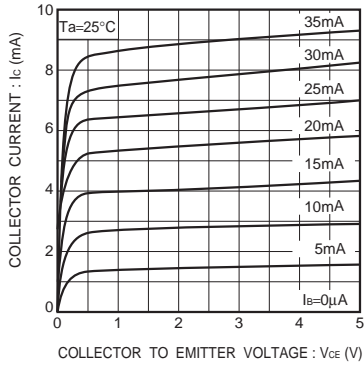


Fig.1 Grounded emitter output characteristics (I)

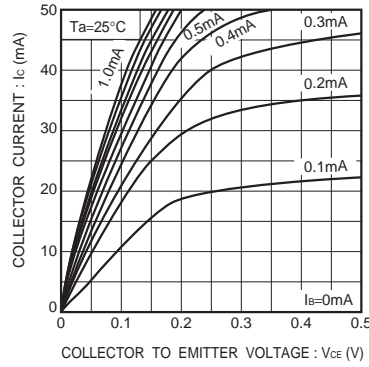


Fig.2 Grounded emitter output characteristics (II)

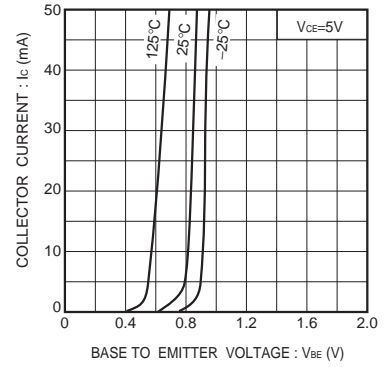


Fig.3 Grounded emitter propagation characteristics

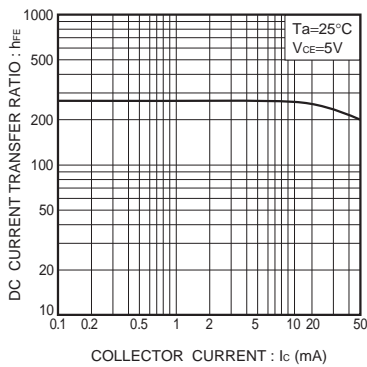


Fig.4 DC current gain vs. collector current

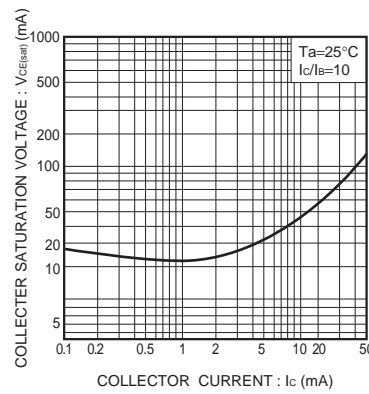


Fig.5 Collector-emitter saturation voltage vs. collector current

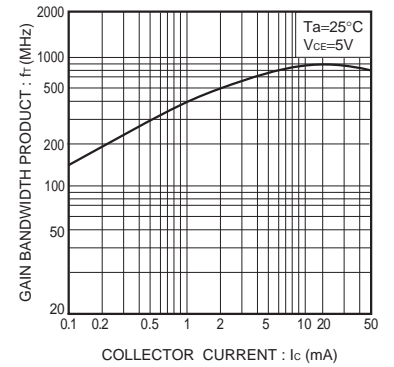


Fig.6 Gain bandwidth product vs. collector current

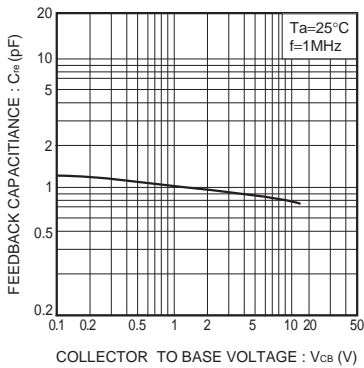


Fig.7 Collector output capacitance vs. voltage

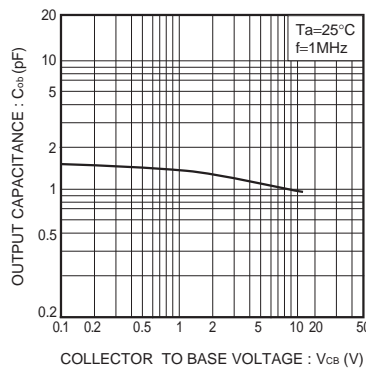


Fig.8 Back capacitance voltage

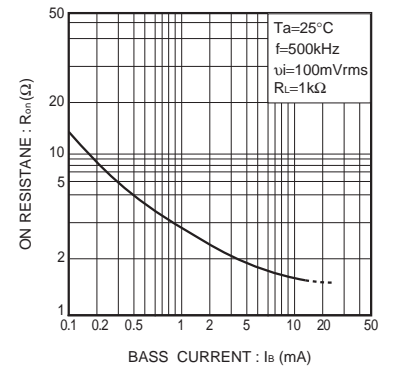


Fig.9 Output-on resistance vs. base current

Notes

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