Micro Commercial Components
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# 2SC4617-Q
# 2SC4617-R
# 2SC4617-S

## NPN
## General Purpose Transistors

## Features

- Complement to 2SA1774-Q/R/S
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisure Sensitivity Level 1

### Maximum Ratings @ 25°C Unless Otherwise Specified

| Symbol | Rating | Rating | Unit |
|---|---|---|---|
| $V_{CEO}$ | Collector-Emitter Voltage | 50 | V |
| $V_{CBO}$ | Collector-Base Voltage | 60 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 7 | V |
| $I_C$ | Collector Current-Continuous | 150 | mA |
| $P_C$ | Collector Dissipation | 150 | mW |
| $T_J$ | Operating Junction Temperature | -55 to +150 | ℃ |
| $T_{STG}$ | Storage Temperature | -55 to +150 | ℃ |

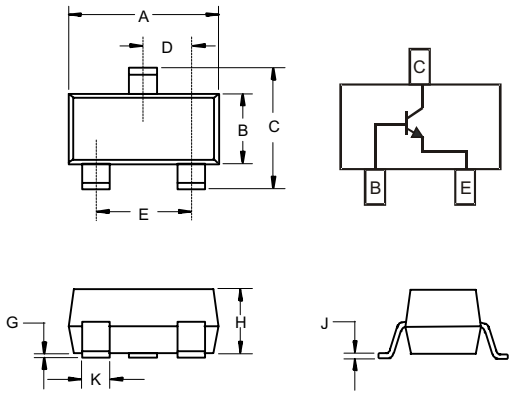
### Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|---|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage ($I_C$=1mAdc, $I_B$=0) | 50 | --- | --- | Vdc |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage ($I_C$=50uAdc, $I_E$=0) | 60 | --- | --- | Vdc |
| $V_{(BR)EBO}$ | Collector-Emitter Breakdown Voltage ($I_E$=50uAdc, $I_C$=0) | 7 | --- | --- | Vdc |
| $I_{CBO}$ | Collector Cutoff Current ($V_{CB}$=60Vdc, $I_E$=0Vdc) | --- | --- | 0.1 | μ Adc |
| $I_{EBO}$ | Emitter Cutoff Current ($V_{EB}$=7Vdc, $I_C$=0Vdc) | --- | --- | 0.1 | μ Adc |
| $h_{FE}$ | DC Current Gain ($I_C$=1mAdc, $V_{CE}$=6Vdc) | 120 | --- | 560 | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C$=50mAdc, $I_B$=5mAdc) | --- | --- | 0.4 | Vdc |
| $f_T$ | Transition Frequency ($V_{CE}$=12Vdc, $I_C$=2mAdc, f=100MHz) | --- | 180 | --- | MHz |
| $C_{ob}$ | Output Capacitance ($V_{CB}$=12Vdc, f=1.0MHz, $I_E$=0) | --- | 2.0 | 3.5 | pF |

### Classification OF $h_{FE}$

| Rank | Q | R | S |
|---|---|---|---|
| Range | 120-270 | 180-390 | 270-560 |
| Marking | BQ | BR | BS |

## SOT-523




| DIMENSIONS | | | | | |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| DIM | MIN | MAX | MIN | MAX | NOTE |
| A | .059 | .067 | 1.50 | 1.70 | |
| B | .030 | .033 | 0.75 | 0.85 | |
| C | .057 | .069 | 1.45 | 1.75 | |
| D | .020 Nominal | | 0.50Nominal | | |
| E | .035 | .043 | 0.90 | 1.10 | |
| G | .000 | .004 | .000 | .100 | |
| H | .028 | .031 | .70 | 0.80 | |
| J | .004 | .008 | .100 | .200 | |
| K | .010 | .014 | .25 | .35 | |

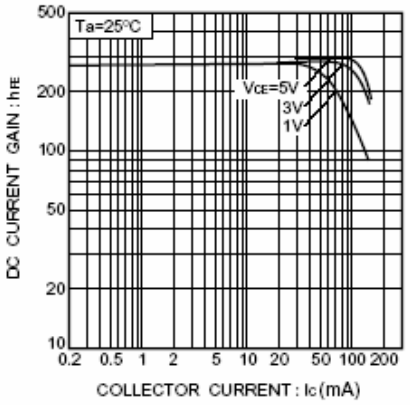



Fig.1 DC current gain vs. collector current

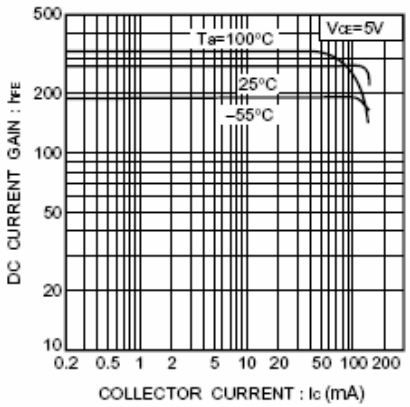



Fig.2 DC current gain vs. collector current

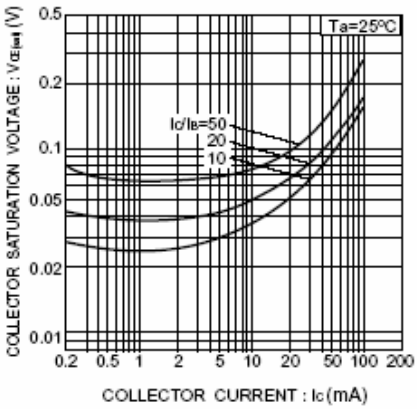



Fig. 3 Collector-emitter saturation voltage vs. collector current

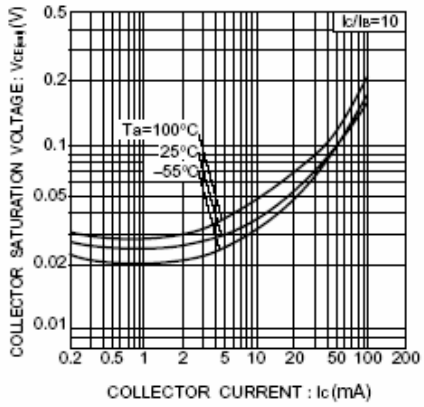



Fig.4 Collector-emitter saturation voltage vs. collector current

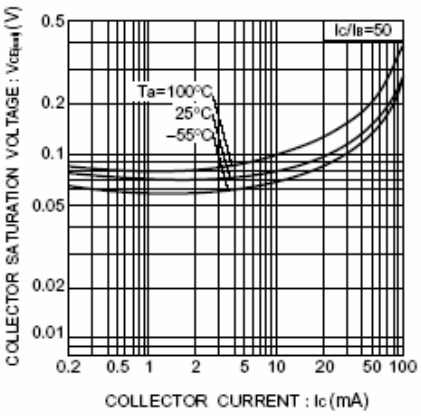



Fig.5 Collector-emitter saturation voltage vs. collector current

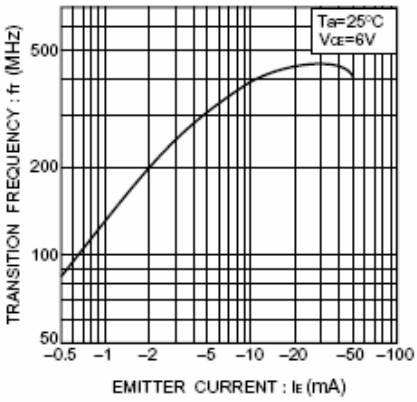



Fig.6 Gain bandwidth product vs. emitter current

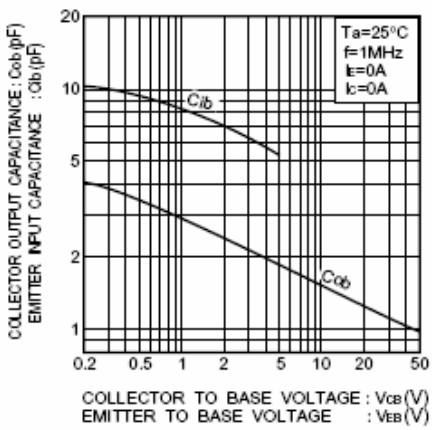



Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

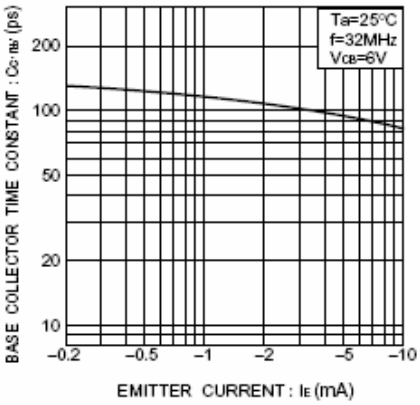



Fig.8 Base-collector time constant vs. emitter current

## Ordering Information :

| Device | Packing |
|---|---|
| Part Number-TP | Tape&Reel;3Kpcs/Reel |


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|---|
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