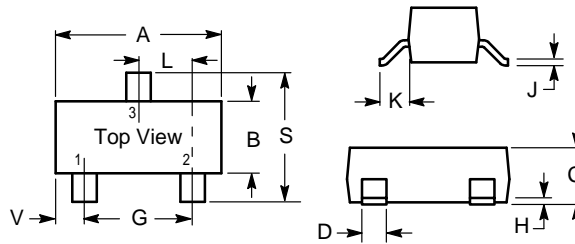
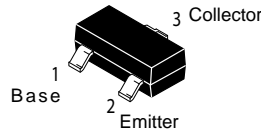


A suffix of "-C" specifies halogen & lead-free

**FEATURES**

- Power Dissipation  
P<sub>CM</sub>: 200 mW (T<sub>amb</sub>= 25°C)
- RoHS Compliant Product



| SOT-23              |       |       |
|---------------------|-------|-------|
| Dim                 | Min   | Max   |
| A                   | 2.800 | 3.040 |
| B                   | 1.200 | 1.400 |
| C                   | 0.890 | 1.110 |
| D                   | 0.370 | 0.500 |
| G                   | 1.780 | 2.040 |
| H                   | 0.013 | 0.100 |
| J                   | 0.085 | 0.177 |
| K                   | 0.450 | 0.600 |
| L                   | 0.890 | 1.020 |
| S                   | 2.100 | 2.500 |
| V                   | 0.450 | 0.600 |
| All Dimension in mm |       |       |

**MAXIMUM RATINGS\*** T<sub>A</sub>=25°C unless otherwise noted

| Symbol                            | Parameter                        | Value   | Units |
|-----------------------------------|----------------------------------|---------|-------|
| V <sub>CB0</sub>                  | Collector-Base Voltage           | 40      | V     |
| V <sub>CEO</sub>                  | Collector-Emitter Voltage        | 32      | V     |
| V <sub>EBO</sub>                  | Emitter-Base Voltage             | 5       | V     |
| I <sub>C</sub>                    | Collector Current -Continuous    | 500     | mA    |
| P <sub>C</sub>                    | Collector Dissipation            | 200     | mW    |
| T <sub>J</sub> , T <sub>stg</sub> | Junction and Storage Temperature | -55-150 | °C    |

**ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)**

| Parameter                            | Symbol               | Test conditions                                     | MIN | TYP | MAX | UNIT |
|--------------------------------------|----------------------|---|-----|-----|-----|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> =100µA, I <sub>E</sub> =0            | 40  |     |     | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =1mA, I <sub>B</sub> =0              | 32  |     |     | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> =100µA, I <sub>C</sub> =0            | 5   |     |     | V    |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =20V, I <sub>E</sub> =0             |     |     | 1   | µA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =4V, I <sub>C</sub> =0              |     |     | 1   | µA   |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> =3V, I <sub>C</sub> =100mA          | 82  |     | 390 |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =500mA, I <sub>B</sub> =50mA         |     |     | 0.4 | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =5V, I <sub>C</sub> =20mA, f=100MHz |     | 250 |     | MHz  |
| Collector output capacitance         | C <sub>ob</sub>      | V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz     |     | 6.0 |     | pF   |

**CLASSIFICATION OF h<sub>FE</sub>**

| Rank    | P      | Q       | R       |
|---------|--------|---------|---------|
| Range   | 82-180 | 120-270 | 180-390 |
| Marking | CP     | CQ      | CR      |

## Typical characteristics

## 2SC2411

### ● Electrical characteristic curves

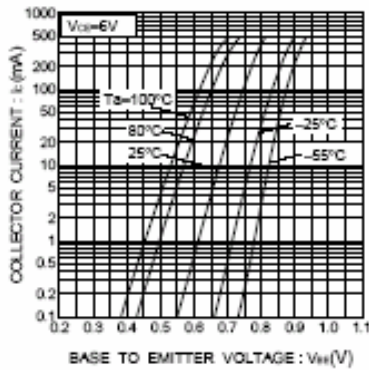


Fig.1 Grounded emitter propagation characteristics

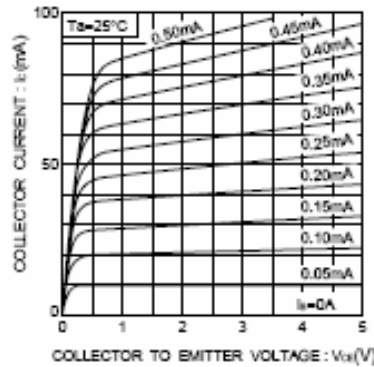


Fig.2 Grounded emitter output characteristics(I)

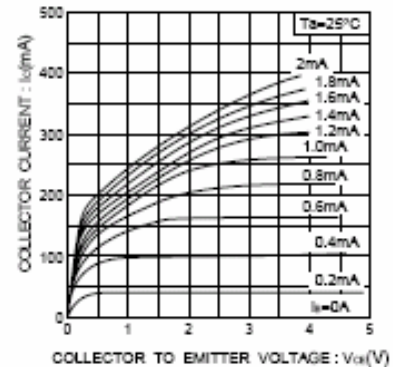


Fig.3 Grounded emitter output characteristics(II)

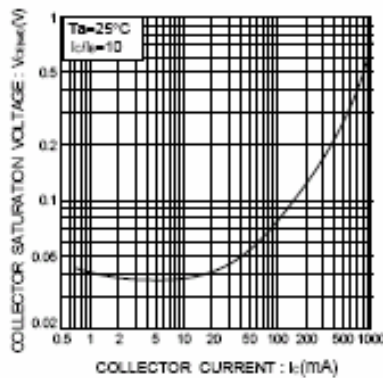


Fig.4 Collector-emitter saturation voltage vs. collector current

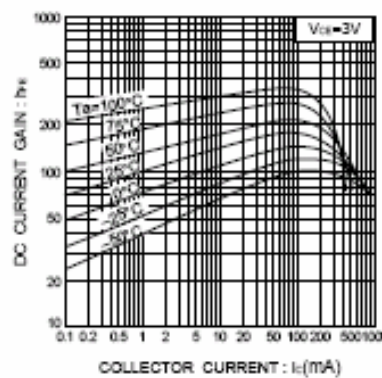


Fig.5 DC current gain vs. collector current

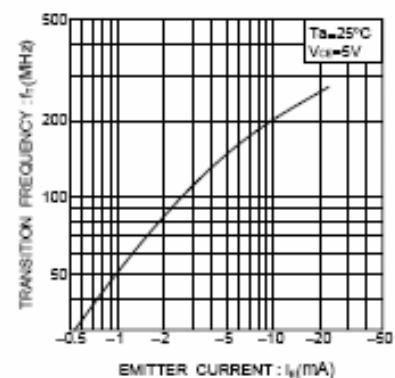


Fig.6 Gain bandwidth product vs. emitter current

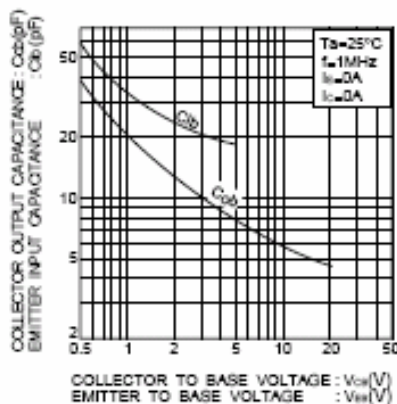


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage