

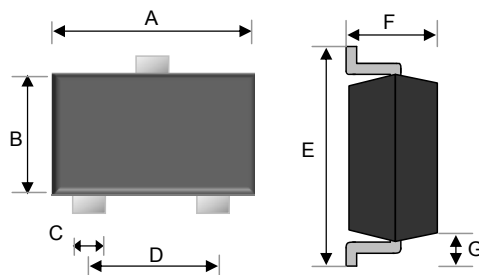


## Features

- ◇Surface device type mounting
- ◇Moisture sensitivity level 1
- ◇Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ◇Pb free version and RoHS compliant
- ◇Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

## Mechanical Data

- ◇Case : SOT- 723 small outline plastic package
- ◇Terminal: Matte tin plated, lead free., solderable per MIL-STD-202, Method 208 guaranteed
- ◇High temperature soldering guaranteed: 260°C/10s

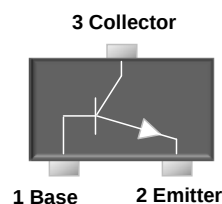


| Dimensions | Unit (mm) |      | Unit (inch) |      |
|------------|-----------|------|-------------|------|
|            | Min       | Max  | Min         | Max  |
| A          | 1.15      | 1.25 | 0.05        | 0.05 |
| B          | 0.75      | 0.85 | 0.03        | 0.03 |
| C          | 0.17      | 0.27 | 0.01        | 0.01 |
| D          | 0.8 TYP   |      | 0.31TYP     |      |
| E          | 1.15      | 1.25 | 0.05        | 0.05 |
| F          |           | 0.50 |             | 0.02 |

## Ordering Information

| Package | Part No.      | Packing      |
|---------|---------------|--------------|
| SOT-723 | 2SA2029-Q RM  | 3K / 7" Reel |
| SOT-723 | 2SA2029-Q RMG | 3K / 7" Reel |
| SOT-723 | 2SA2029-R RM  | 3K / 7" Reel |
| SOT-723 | 2SA2029-R RMG | 3K / 7" Reel |
| SOT-723 | 2SA2029-S RM  | 3K / 7" Reel |
| SOT-723 | 2SA2029-S RMG | 3K / 7" Reel |

## Pin Configuration



## Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

### Maximum Ratings

| Type Number                            | Symbol         | Value        | Units |
|----------------------------------------|----------------|--------------|-------|
| Collector Dissipation                  | $P_c$          | 150          | mW    |
| Collector-Base Voltage                 | $V_{CBO}$      | -60          | V     |
| Collector-Emitter Voltage              | $V_{CEO}$      | -50          | V     |
| Emitter-Base Voltage                   | $V_{EBO}$      | -6           | V     |
| Collector Current                      | $I_c$          | -150         | mA    |
| Junction and Storage Temperature Range | $T_J, T_{STG}$ | -55 to + 150 | °C    |

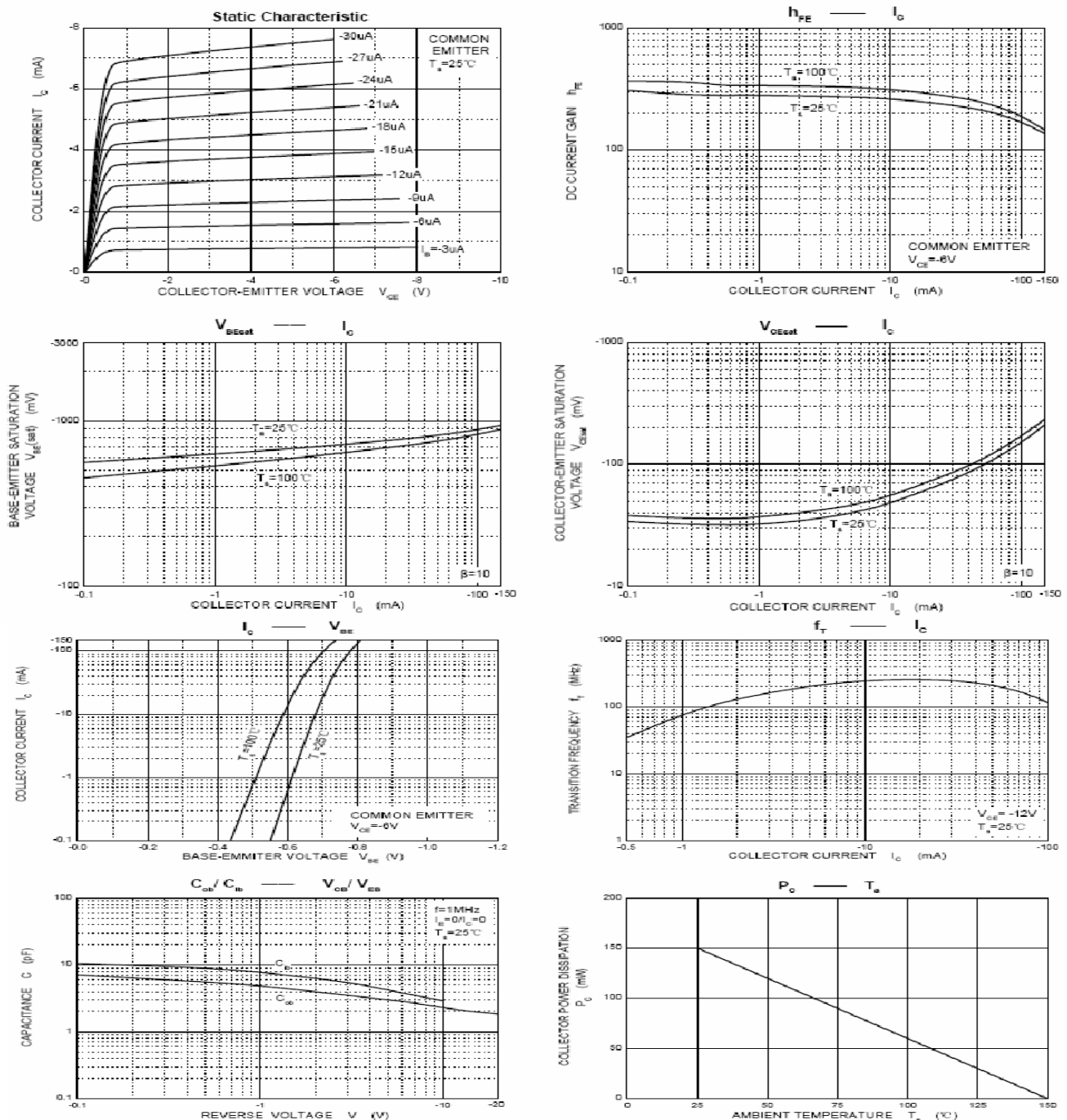
Notes:1. Valid provided that electrodes are kept at ambient temperature

## Small Signal Diode

### Electrical Characteristics

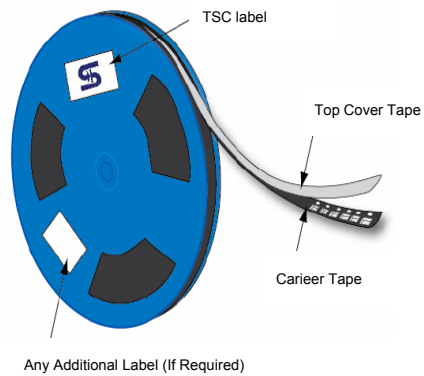
| Type Number                          | Symbol                            | Min           | Max | Units   |
|--------------------------------------|-----------------------------------|---------------|-----|---------|
| Collector-Base Breakdown Voltage     | $I_C=50\mu A$ $I_E=0$             | $V_{(BR)CBO}$ | -60 | V       |
| Collector-Emitter Breakdown Voltage  | $I_C=1mA$ $I_B=0$                 | $V_{(BR)CEO}$ | -50 | V       |
| Emitter-Base Breakdown Voltage       | $I_E=-50\mu A$ $I_C=0$            | $V_{(BR)EBO}$ | -6  | V       |
| Collector Cut-off Current            | $V_{CB}=-60V$ $I_E=0$             | $I_{CBO}$     | -   | $\mu A$ |
| Emitter Cut-off Current              | $V_{EB}=-6V$ $I_C=0$              | $I_{EBO}$     | -   | $\mu A$ |
| DC current gain                      | $V_{CE}=-6V$ $I_C=-1mA$           | $h_{FE}$      | 120 | -       |
| Collector-Emitter saturation voltage | $I_C=-50mA$ $I_B=-5mA$            | $V_{CE(sat)}$ | -   | V       |
| Transition frequency                 | $V_{CE}=-12V$ $I_C=2mA$ $f=30MHz$ | $f_T$         | 140 | MHz     |
| Output capacitance                   | $V_{CB}=-12V$ $I_E=0$ $f=1MHz$    | $C_{ob}$      | -   | pF      |

### Rating and Characteristic Curves



## Small Signal Diode

### Tape & Reel specification



| Item                   | Symbol | Dimension(mm) |
|------------------------|--------|---------------|
| Carrier width          | A      | 1.33 ±0.05    |
| Carrier length         | B      | 1.45 ±0.05    |
| Carrier depth          | C      | 0.61±0.05     |
| Sprocket hole          | d      | 1.50 ± 0.1    |
| Reel outside diameter  | D      | 178 ± 2       |
| Reel inner diameter    | D1     | 54.4±1        |
| Feed hole width        | D2     | 13.0 ± 1      |
| Sprocket hole position | E      | 1.75 ±0.1     |
| Punch hole position    | F      | 3.50 ±0.1     |
| Sprocket hole pitch    | P0     | 4.00 ±0.1     |
| Embossment center      | P1     | 2.00 ±0.1     |
| Tape width             | W      | 9.5 ±1        |
| Reel width             | W1     | 12.30 ±1      |

