TRANSISTOR (NPN)

**Plastic-Encapsulate Transistor**

## FEATURES

Power dissipation

$P_{CM}$ : 0.15W (Tamb=25°C)

Collector current

$I_{CM}$ : 0.05A

Collector-base Voltage

$V_{(BR)CBO}$ : 40 V

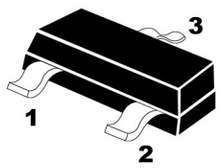
Operating and storage junction temperature range

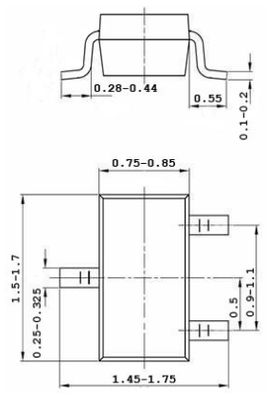
$T_J$, $T_{stg}$ : -55°C to +150°C

**MARKING: AN, AP, AQ**

## SOT-523

1. BASE
2. EMITTER
3. COLLECTOR




UNIT:mm

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

### ELECTRICAL CHARACTERISTICS

| Parameters | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=50μA, $I_E$=0 | 40 | | | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=1mA, $I_B$=0 | 25 | | | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=50μA, $I_C$=0 | 5 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=24V, $I_E$=0 | | | 0.5 | μA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=3V, $I_C$=0 | | | 0.5 | μA |
| DC Current Gain | $H_{FE(1)}$ | $V_{CE}$=6V, $I_C$=1mA | 56 | | 270 | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=10mA, $I_B$=1mA | | | 0.3 | V |
| Transition Frequency | $F_T$ | $V_{CE}$=6V, $I_C$=1mA, f=100MHz | 150 | | | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$=6V, $I_E$=0, f=1MHz | | | 2.2 | pF |

### CLASSIFICATION OF $h_{FE(1)}$

| Rank | N | P | Q |
|---|---|---|---|
| Range | 56-120 | 82-180 | 120-270 |



RoHS Pb-free TIP Semiconductor