

RoHS Compliant Product



1.BASE  
2.COLLECTOR  
3.EMITTER

## Features

Power dissipation

$P_{CM}$ : 0.5 W ( $T_{amb}=25^{\circ}C$ )

Collector current

$I_{CM}$ : 1 A

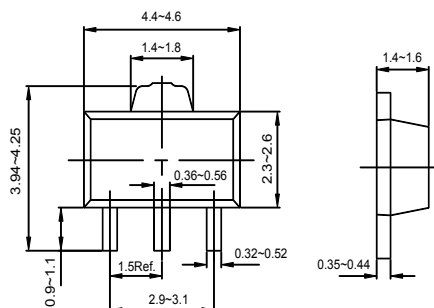
Collector-base voltage

$V_{(BR)CBO}$ : 45 V

Operating and storage junction temperature range

$T_J, T_{stg}$ :  $-55^{\circ}C$  to  $+150^{\circ}C$

**SOT-89**



Dimension in Millimeter

## ELECTRICAL CHARACTERISTICS ( $T_{amb}=25^{\circ}C$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                      | MIN | MAX | UNIT    |
|--------------------------------------|---------------|--------------------------------------|-----|-----|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu A, I_E=0$                | 45  |     | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=1mA, I_B=0$                     | 45  |     | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0$                 | 5   |     | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=30V, I_E=0$                  |     | 0.1 | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5V, I_C=0$                   |     | 0.1 | $\mu A$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=2V, I_C=150mA$               | 63  | 250 |         |
|                                      |               |                                      | 63  | 160 |         |
|                                      |               |                                      | 100 | 250 |         |
|                                      | $h_{FE(2)}$   | $V_{CE}=2V, I_C=5mA$                 | 40  |     |         |
|                                      | $h_{FE(3)}$   | $V_{CE}=2V, I_C=500mA$               | 25  |     |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=500mA, I_B=50mA$                |     | 0.5 | V       |
| Base-emitter voltage                 | $V_{BE(ON)}$  | $I_C=500mA, V_{CE}=2V$               |     | 1   | V       |
| Transition frequency                 | $f_T$         | $V_{CE}=10V, I_C=50mA$<br>$f=100MHz$ | 130 |     | MHz     |

DEVICE MARKING

BCX54=BA BCX54-10=BC BCX54-16=BD