



**KTC3199-O**  
**KTC3199-Y**  
**KTC3199-GR**  
**KTC3199-BL**

## Features

- High DC Current Gain:  $h_{FE}=70\sim700$
- Excellent  $h_{FE}$  Linearity:  $h_{FE}(0.1mA)/h_{FE}(2.0mA)=0.95(Typ)$
- Low Noise:  $NF=1.0dB(Typ.)$ ,  $10dB(Max.)$
- Complementary to KTA1267
- Marking: C3199
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Halogen free available upon request by adding suffix "-HF"

## Maximum Ratings

| Symbol    | Rating                      | Rating      | Unit        |
|-----------|-----------------------------|-------------|-------------|
| $V_{CEO}$ | Collector-Emitter Voltage   | 50          | V           |
| $V_{CBO}$ | Collector-Base Voltage      | 50          | V           |
| $V_{EBO}$ | Emitter-Base Voltage        | 5.0         | V           |
| $I_C$     | Collector Current           | 150         | mA          |
| $I_E$     | Emitter Current             | 150         | A           |
| $P_C$     | Collector power dissipation | 400         | mW          |
| $T_J$     | Junction Temperature        | -55 to +150 | $^{\circ}C$ |
| $T_{STG}$ | Storage Temperature         | -55 to +150 | $^{\circ}C$ |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Typ | Max | Units |
|--------|-----------|-----|-----|-----|-------|
|--------|-----------|-----|-----|-----|-------|

### OFF CHARACTERISTICS

|           |  |     |     |     |              |
|-----------|--|-----|-----|-----|--------------|
| $I_{CBO}$ | Collector-Base Cutoff Current<br>( $V_{CB}=50Vdc, I_E=0$ ) | --- | --- | 0.1 | $\mu A_{dc}$ |
| $I_{EBO}$ | Emitter-Base Cutoff Current<br>( $V_{EB}=5.0Vdc, I_C=0$ )  | --- | --- | 0.1 | $\mu A_{dc}$ |

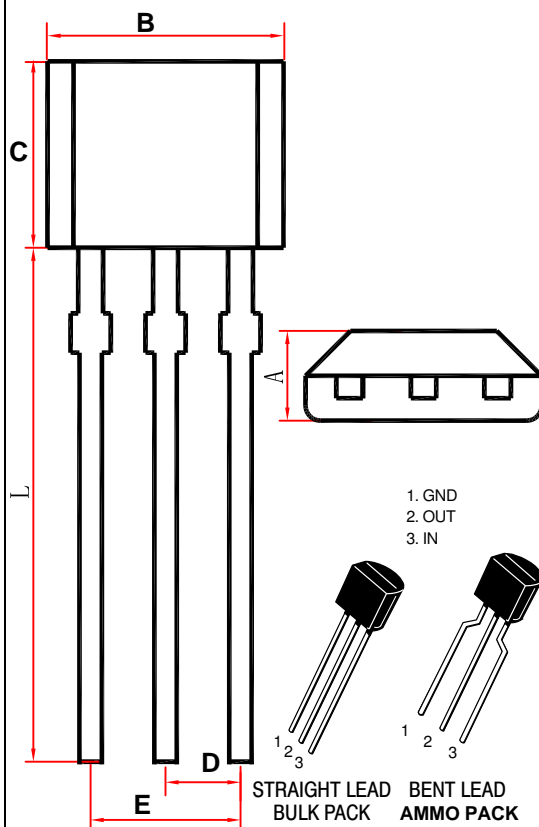
### ON CHARACTERISTICS

|               |   |     |     |      |     |
|---------------|---|-----|-----|------|-----|
| $h_{FE}$      | DC Current gain <sup>(1)</sup><br>( $I_C=2.0mA_{dc}, V_{CE}=6.0Vdc$ )       | 70  | --- | 700  | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C=100mA_{dc}, I_E=10mA_{dc}$ ) | --- | 0.1 | 0.25 | Vdc |
| $f_T$         | Transistor Frequency<br>( $V_{CE}=10Vdc, I_C=1.0mA_{dc}$ )                  | 80  | --- | ---  | MHz |
| $C_{ob}$      | Collector Output Capacitance<br>( $V_{CB}=10Vdc, I_E=0, f=1.0MHz$ )         | --- | 2.0 | 3.5  | pF  |
| NF            | Noise Figure<br>( $V_{CE}=6.0Vdc, I_C=0.1mA_{dc}, f=1.0kHz, R_g=10KOHM$ )   | --- | 1.0 | 10   | dB  |

(1)  $h_{FE}$  Classification O: 70~140, Y: 120~240, GR: 200~400, BL: 300~700

## NPN General Purpose Application

TO-92S



| DIMENSIONS |        |      |       |       |               |
|------------|--------|------|-------|-------|---------------|
| DIM        | INCHES |      | MM    |       | NOTE          |
|            | MIN    | MAX  | MIN   | MAX   |               |
| A          | .056   | .064 | 1.42  | 1.62  |               |
| B          | .154   | .161 | 3.90  | 4.10  |               |
| C          | .120   | .128 | 3.05  | 3.25  |               |
| D          | .050   |      | 1.27  |       | Straight Lead |
|            | .086   | .110 | 2.20  | 2.80  |               |
| E          | .096   | .104 | 2.44  | 2.64  | Straight Lead |
|            | .173   | .220 | 4.40  | 5.60  |               |
| L          | .594   | .610 | 15.10 | 15.50 | Bent Lead     |

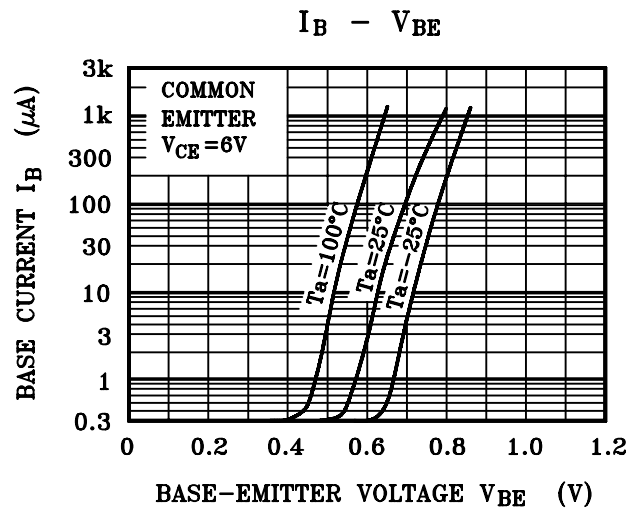
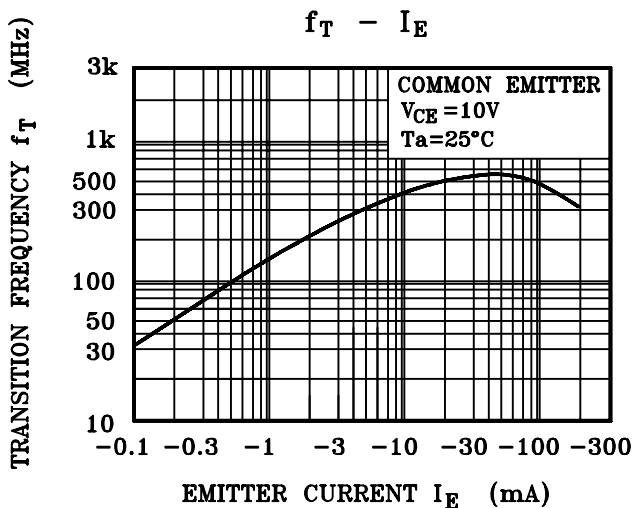
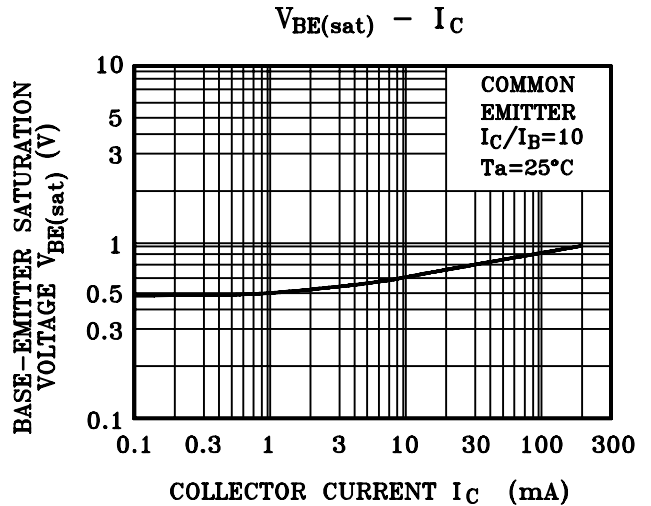
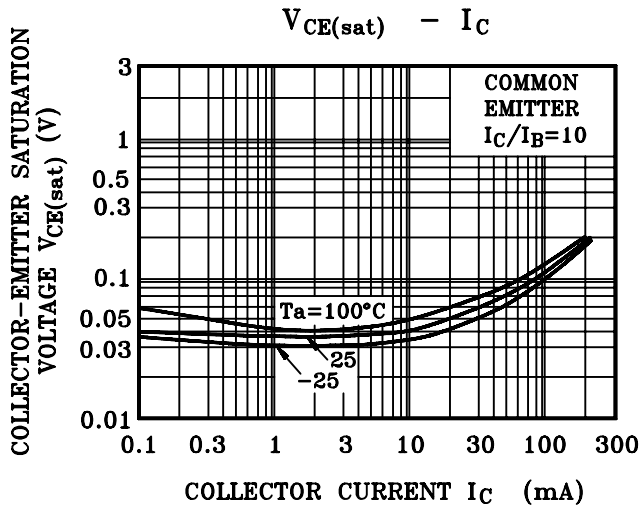
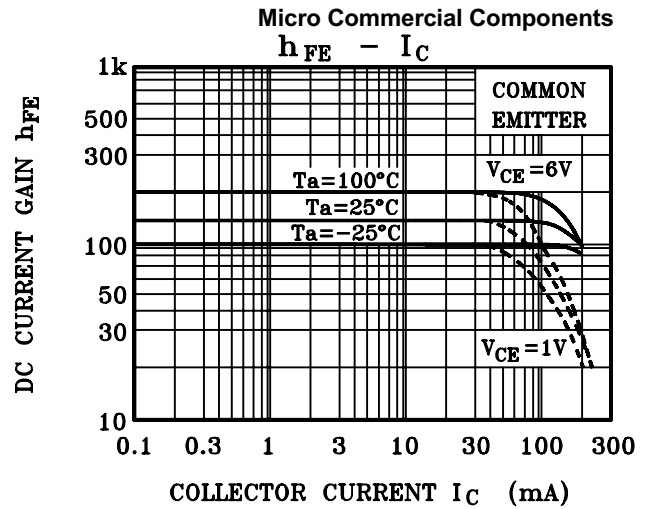
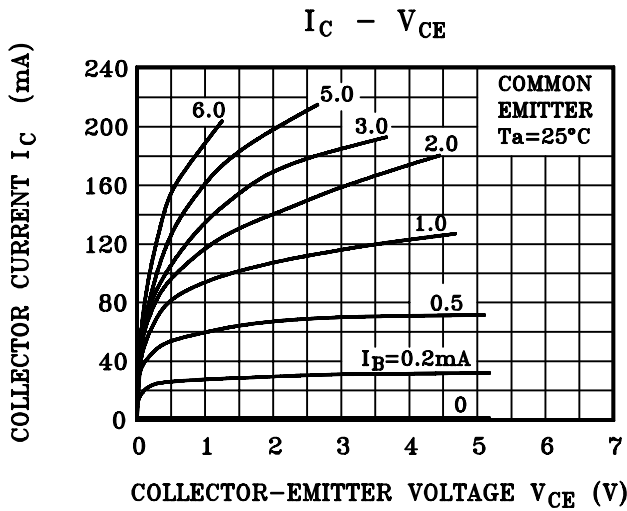
\* For ammo packing detailed specification, click here to visit our website of product packaging for details.

KTC3199

**M.C.C.**

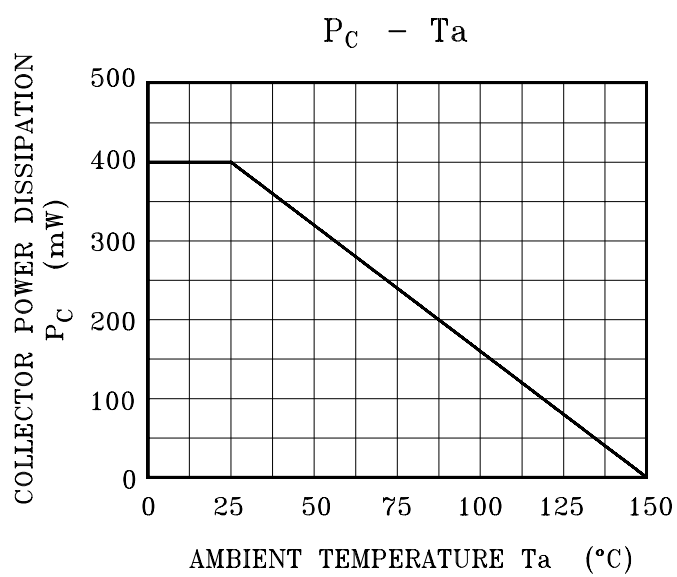
TM

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KTC3199



## Ordering Information :

| Device         | Packing                     |
|----------------|-----------------------------|
| Part Number-AP | Ammo Packing: 30Kpcs/Carton |
| Part Number-BP | Bulk: 100Kpcs/Carton        |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-AP-HF

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