

Medium Power Transistor

(-32V, -0.5A)

- Features

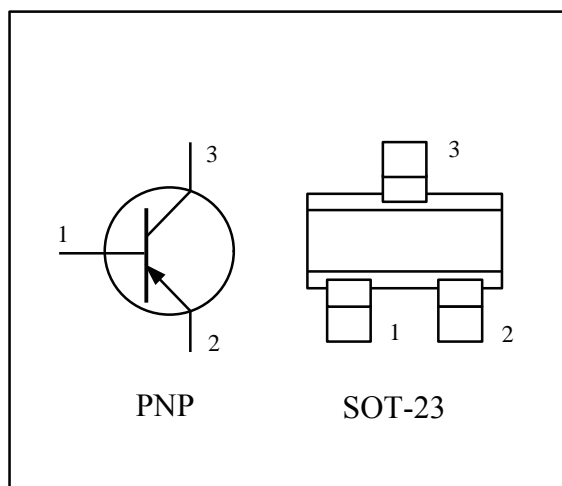
- 1) Large I_C .
 $I_{CMax} = -500mA$
- 2) Low $V_{CE(sat)}$. Ideal for low-voltage operation.
- 3) We declare that the material of product compliance with RoHS requirements.

- Structure

Epitaxial planar type
PNP silicon transistor

- DEVICE MARKING

- | |
|--------------------|
| 1) FTA1036K-P = HP |
| 2) FTA1036K-Q = HQ |
| 3) FTA1036K-R = HR |



- Absolute maximum ratings ($T_a = 25^{\circ}C$)

| Parameter | Symbol | Limits | Unit |
|-----------------------------|-----------|------------|-------------|
| Collector- base voltage | V_{CBO} | -40 | V |
| Collector- emitter voltage | V_{CEO} | -32 | V |
| Emitter-base voltage | V_{EBO} | -5 | V |
| Collector current | I_C | -0.5 | A * |
| Collector power dissipation | P_C | 0.2 | W |
| Junction temperature | T_j | 150 | $^{\circ}C$ |
| Storage temperature | T_{stg} | -55 ~ +150 | $^{\circ}C$ |

* $P_{C MAX}$, must not be exceeded.

- ORDERING INFORMATION

| Device | Package | Shipping |
|---------------|---------|------------------|
| FTA1036K*LT1G | SOT-23 | 3000/Tape & Reel |

● Electrical characteristics (Ta = 25°C)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|--------------------------------------|---------------|------|------|-------|---------|--|
| Collector-base breakdown voltage | BV_{CBO} | -40 | - | - | V | $I_C = -100\mu A$ |
| Collector-emitter breakdown voltage | BV_{CEO} | -32 | - | - | V | $I_C = -1mA$ |
| Emitter-base breakdown voltage | BV_{EBO} | -5 | - | - | V | $I_E = -100\mu A$ |
| Collector cutoff current | I_{CBO} | - | - | -1 | μA | $V_{CB} = -20V$ |
| Emitter cutoff current | I_{EBO} | - | - | -1 | μA | $V_{EB} = -4V$ |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | - | -0.1 | -0.25 | V | $I_C = -100mA, I_B = -10mA$ |
| DC current transfer ration | h_{FE} | 82 | - | 390 | - | $V_{CE} = -3V, I_C = -10mA$ |
| Transition frequency | f_T | - | 200 | - | MHz | $V_{CE} = -5V, I_E = 20mA, f = 100MHz$ |
| Output capacitance | C_{ob} | - | 7 | - | pF | $V_{CB} = -10V, I_E = 0A, f = 1MHz$ |

● h_{FE} values are classified as follows.

| Item | P | Q | R |
|----------|----------|-----------|-----------|
| h_{FE} | 82 ~ 180 | 120 ~ 270 | 180 ~ 390 |

● Electrical characteristic curves

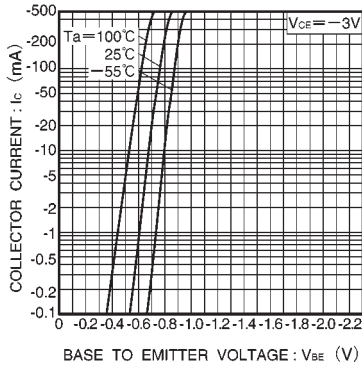


Fig.1 Grounded emitter propagation

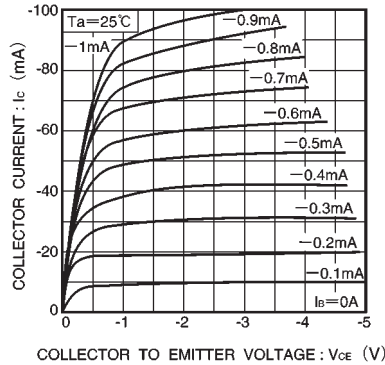


Fig.2 Grounded emitter output characteristics (I)

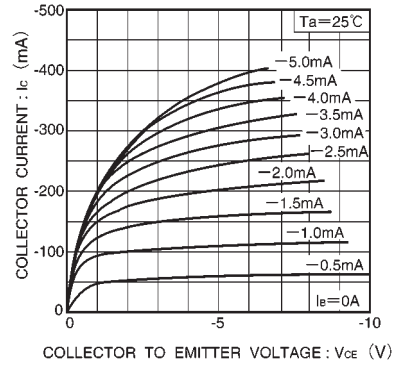


Fig.3 Grounded emitter output characteristics (II)

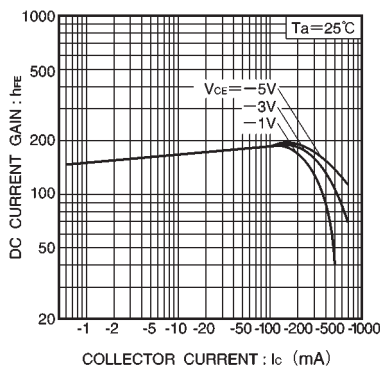


Fig.4 DC current gain vs. collector current (I)

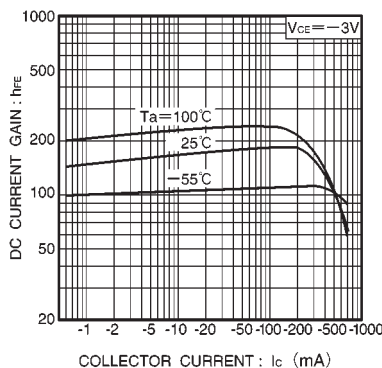


Fig.5 DC current gain vs. collector current (II)

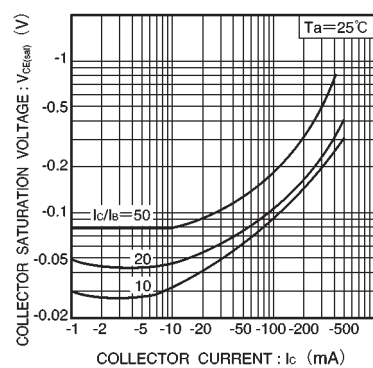


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

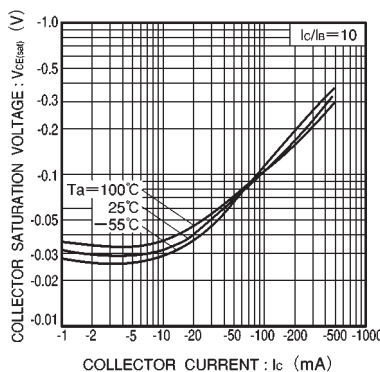


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

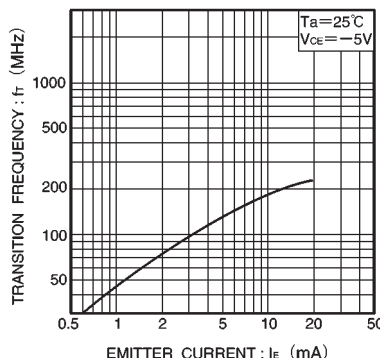


Fig.8 Gain bandwidth product vs. emitter current

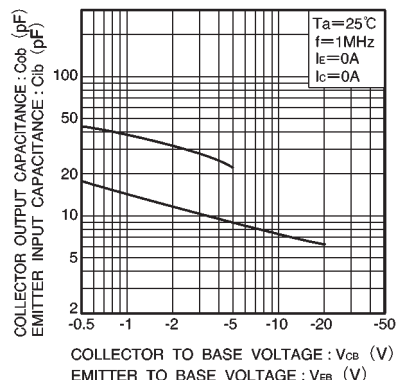
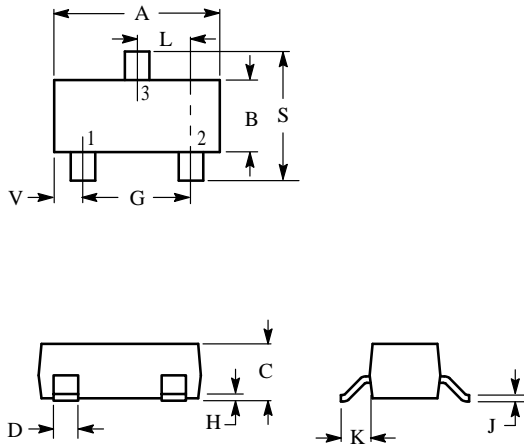


Fig.9 Collector output capacitance vs. collector-base voltage. Emitter input capacitance vs. emitter-base voltage

SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|--------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.1102 | 0.1197 | 2.80 | 3.04 |
| B | 0.0472 | 0.0551 | 1.20 | 1.40 |
| C | 0.0350 | 0.0440 | 0.89 | 1.11 |
| D | 0.0150 | 0.0200 | 0.37 | 0.50 |
| G | 0.0701 | 0.0807 | 1.78 | 2.04 |
| H | 0.0005 | 0.0040 | 0.013 | 0.100 |
| J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| K | 0.0140 | 0.0285 | 0.35 | 0.69 |
| L | 0.0350 | 0.0401 | 0.89 | 1.02 |
| S | 0.0830 | 0.1039 | 2.10 | 2.64 |
| V | 0.0177 | 0.0236 | 0.45 | 0.60 |

- PIN 1. BASE
 2. EMITTER
 3. COLLECTOR

