

NPN SILICON POWER TRANSISTOR ARRAY
 LOW SPEED SWITCHING USE
 INDUSTRIAL USE

DESCRIPTION

The μ PA1434 is NPN silicon epitaxial Power Transistor Array that built in 4 circuits designed for driving solenoid, relay, lamp and so on.

FEATURES

- Easy mount by 0.1 inch of terminal interval.
- High h_{FE} . LOW $V_{CE(sat)}$.
 $h_{FE} = 800$ to 3200 (at $I_c = 0.5$ A)
 $V_{CE(sat)} = 0.5$ V MAX. (at $I_c = 2$ A)

ORDERING INFORMATION

| Part Number | Package | Quality Grade |
|---------------|------------|---------------|
| μ PA1434H | 10 Pin SIP | Standard |

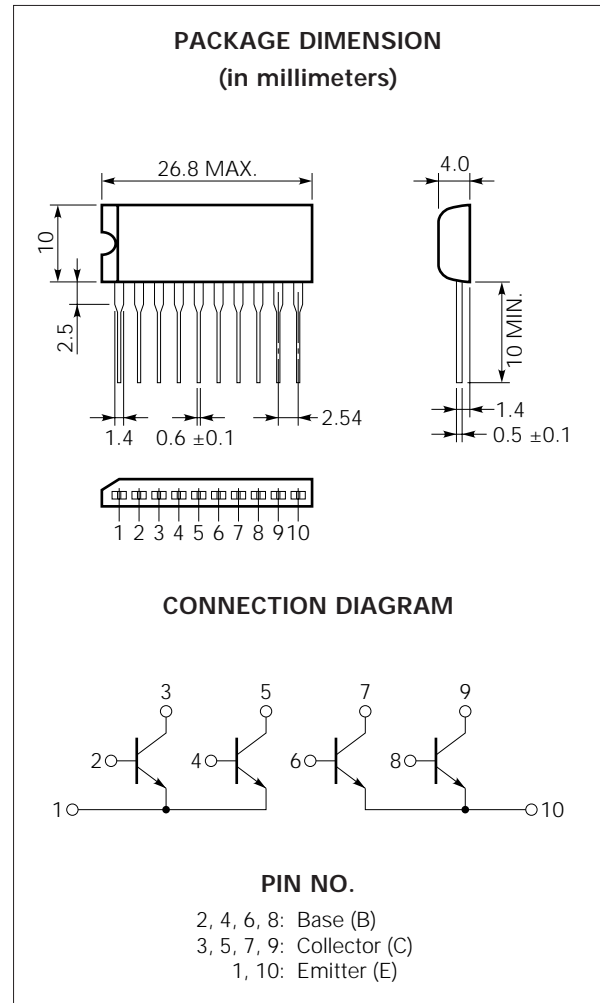
Please refer to "Quality grade on NEC Semiconductor Device" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

ABSOLUTE MAXIMUM RATINGS ($T_a = 25$ °C)

| | | | |
|------------------------------|------------------|-------------|--------|
| Collector to Base Voltage | V_{CBO} | 60 | V |
| Collector to Emitter Voltage | V_{CEO} | 60 | V |
| Emitter to Base Voltage | V_{EBO} | 7 | V |
| Collector Current (DC) | $I_{C(DC)}$ | 3 | A/unit |
| Collector Current (pulse) | $I_{C(pulse)^*}$ | 6 | A/unit |
| Base Current (DC) | $I_{B(DC)}$ | 0.6 | A/unit |
| Total Power Dissipation | P_{T1}^{**} | 3.5 | W |
| (T _a = 25 °C) | | | |
| Total Power Dissipation | P_{T2}^{**} | 28 | W |
| (T _c = 25 °C) | | | |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature | T _{stg} | -55 to +150 | °C |

* PW ≤ 300 μs, Duty Cycle ≤ 10 %

** 4 Circuits



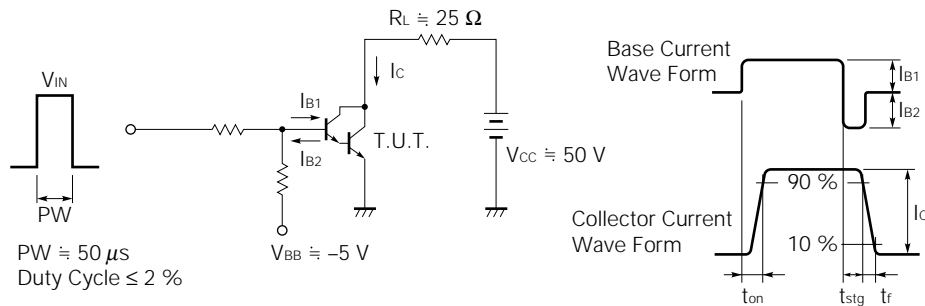
The information in this document is subject to change without notice.

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

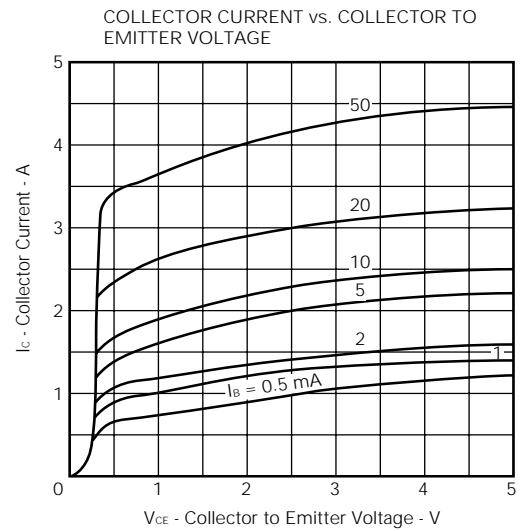
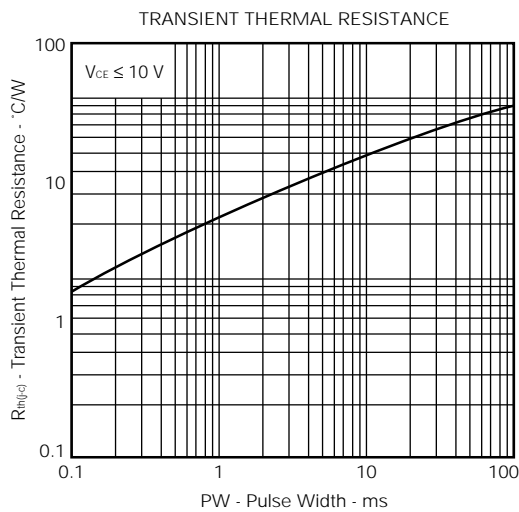
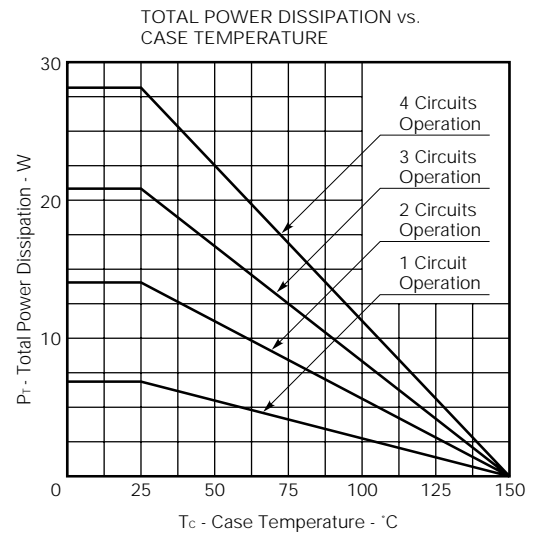
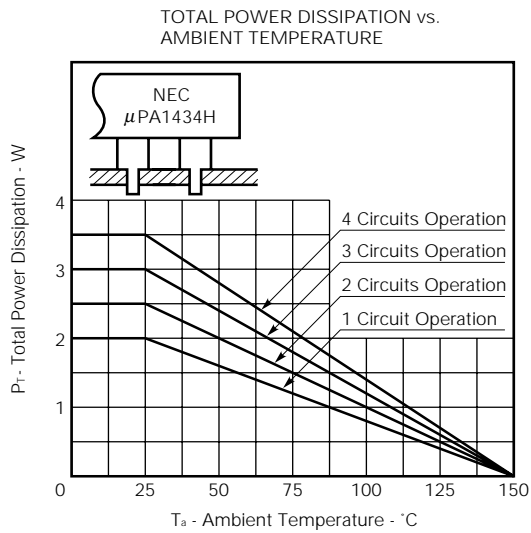
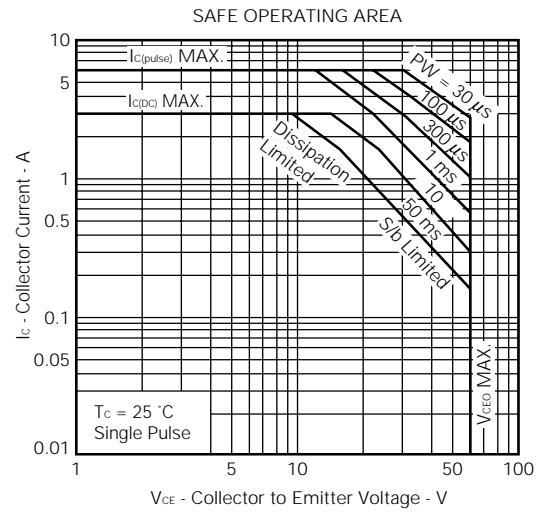
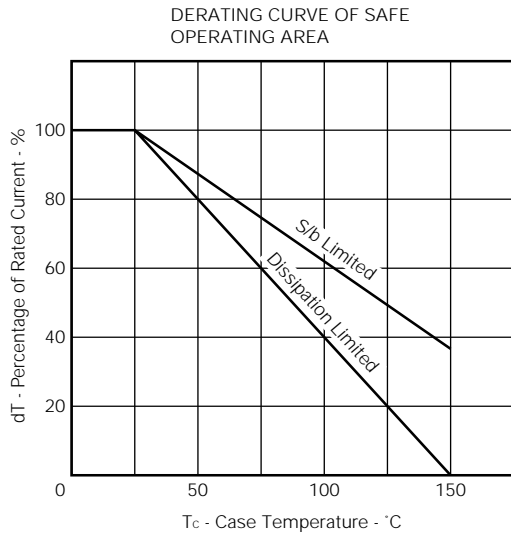
| CHARACTERISTIC | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|------------------------------|------------------------|------|------|------|------|---|
| Collector Leakage Current | I _{CBO} | | | 10 | μA | V _{CB} = 60 V, I _E = 0 |
| Emitter Leakage Current | I _{EBO} | | | 10 | μA | V _{EB} = 5 V, I _C = 0 |
| DC Current Gain | h _{FE1} * | 800 | | 3200 | — | V _{CE} = 5 V, I _C = 0.5 A |
| DC Current Gain | h _{FE2} * | 500 | | | — | V _{CE} = 5 V, I _C = 3 A |
| Collector Saturation Voltage | V _{CE(sat)} * | | | 0.5 | V | I _C = 2 A, I _B = 20 mA |
| Base Saturation Voltage | V _{BE(sat)} * | | | 1.2 | V | I _C = 2 A, I _B = 20 mA |
| Turn On Time | t _{on} | | 1 | | μS | I _C = 2 A |
| Storage Time | t _{stg} | | 3 | | μS | I _{B1} = -I _{B2} = 10 mA |
| Fall Time | t _f | | 1.5 | | μS | V _{CC} ≅ 50 V, R _L ≅ 25 Ω See test circuit |

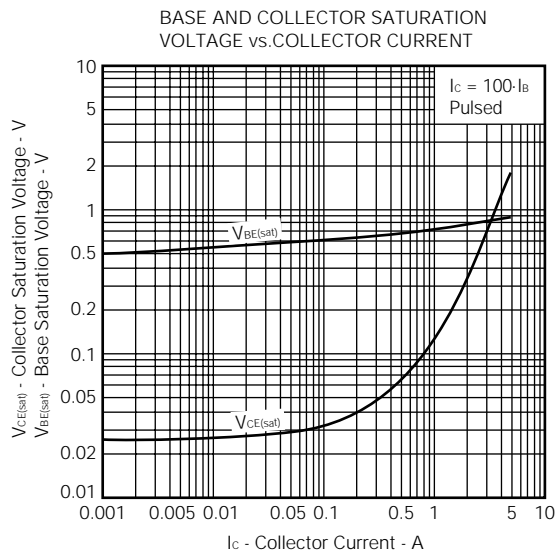
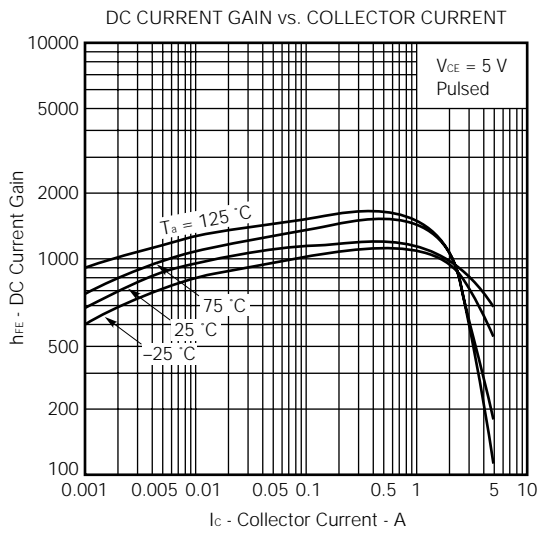
* PW ≤ 350 μs, Duty Cycle ≤ 2 % /pulsed

SWITCHING TIME TEST CIRCUIT



TYPICAL CHARACTERISTICS ($T_a = 25\text{ }^\circ\text{C}$)





REFERENCE

| Document Name | Document No. |
|--|--------------|
| NEC semiconductor device reliability/quality control system. | TEI-1202 |
| Quality grade on NEC semiconductor devices. | IEI-1209 |
| Semiconductor device mounting technology manual. | IEI-1207 |
| Semiconductor device package manual. | IEI-1213 |
| Guide to quality assurance for semiconductor devices. | MEI-1202 |
| Semiconductor selection guide. | MF-1134 |

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