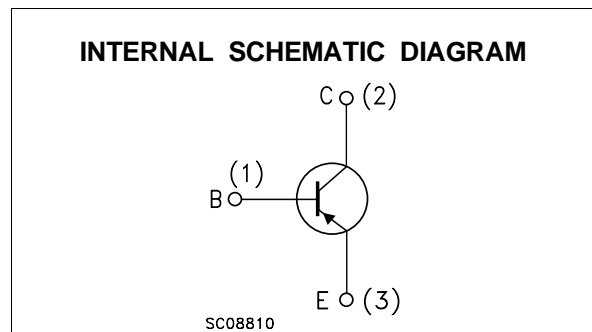
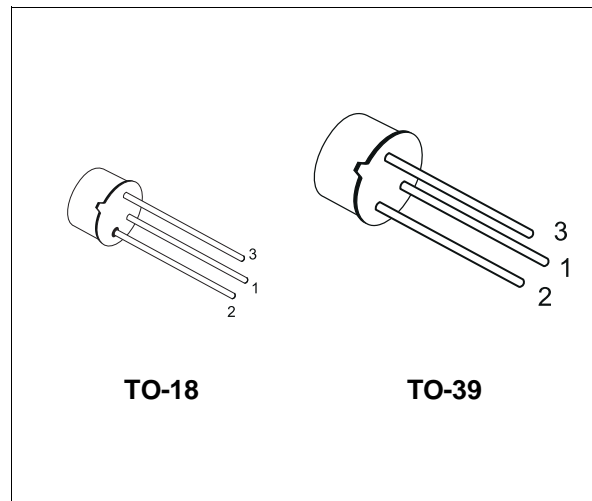


SMALL SIGNAL PNP TRANSISTORS

DESCRIPTION

The 2N2905A and 2N2907A are silicon Planar Epitaxial PNP transistors in Jedec TO-39 (for 2N2905A) and in Jedec TO-18 (for 2N2907A) metal case. They are designed for high speed saturated switching and general purpose applications.



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---|------------|------|
| V_{CBO} | Collector-Base Voltage ($I_E = 0$) | -60 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | -60 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | -5 | V |
| I_C | Collector Current | -0.6 | A |
| I_{CM} | Collector Peak Current ($t_p < 5$ ms) | -0.8 | A |
| P_{tot} | Total Dissipation at $T_{amb} \leq 25$ °C | | |
| | for 2N2905A | 0.6 | W |
| | for 2N2907A | 0.4 | W |
| | at $T_C \leq 25$ °C | | |
| | for 2N2905A | 3 | W |
| | for 2N2907A | 1.8 | W |
| T_{stg} | Storage Temperature | -65 to 175 | °C |
| T_j | Max. Operating Junction Temperature | 175 | °C |

2N2905A/2N2907A

THERMAL DATA

| | | | TO-39 | TO-18 | |
|-----------------------|-------------------------------------|-----|-------|-------|------|
| R _{thj-case} | Thermal Resistance Junction-Case | Max | 50 | 83.3 | °C/W |
| R _{thj-amb} | Thermal Resistance Junction-Ambient | Max | 250 | 375 | °C/W |

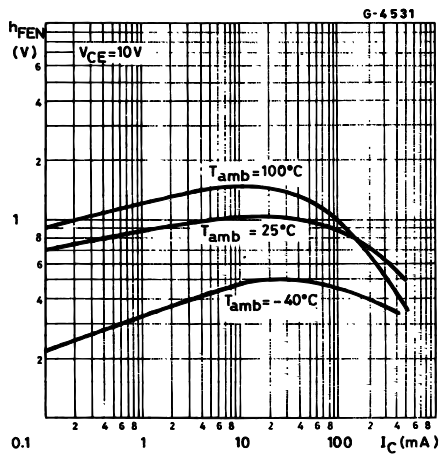
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------------|--|---|-------------------------------|------|--------------|----------|
| I _{CBO} | Collector Cut-off Current (I _E = 0) | V _{CB} = -50 V V _{CB} = -50 V T _J = 150 °C | | | -10 -10 | nA μA |
| I _{CEX} | Collector Cut-off Current (V _{BE} = 0.5V) | V _{CE} = -30 V | | | -50 | nA |
| I _{BEX} | Base Cut-off Current (V _{BE} = 0.5V) | V _{CE} = -30 V | | | -50 | nA |
| V _{(BR)CBO} | Collector-Base Breakdown Voltage (I _E = 0) | I _C = -10 μA | -60 | | | V |
| V _{(BR)CEO*} | Collector-Emitter Breakdown Voltage (I _B = 0) | I _C = -10 mA | -60 | | | V |
| V _{(BR)EBO} | Emitter-Base Breakdown Voltage (I _C = 0) | I _E = -10 μA | -5 | | | V |
| V _{CE(sat)*} | Collector-Emitter Saturation Voltage | I _C = -150 mA I _B = -15 mA I _C = -500 mA I _B = -50 mA | | | -0.4 -1.6 | V V |
| V _{BE(sat)*} | Base-Emitter Saturation Voltage | I _C = -150 mA I _B = -15 mA I _C = -500 mA I _B = -50 mA | | | -1.3 -2.6 | V V |
| h _{FE*} | DC Current Gain | I _C = -0.1 mA V _{CE} = -10 V I _C = -1 mA V _{CE} = -10 V I _C = -10 mA V _{CE} = -10 V I _C = -150 mA V _{CE} = -10 V I _C = -500 mA V _{CE} = -10 V | 75 100 100 100 50 | | 300 | |
| f _T | Transition Frequency | V _{CE} = -20 V f = 100 MHz I _C = -50 mA | 200 | | | MHz |
| C _{EBO} | Emitter-Base Capacitance | I _C = 0 V _{EB} = -2 V f = 1MHz | | | 30 | pF |
| C _{CBO} | Collector-Base Capacitance | I _E = 0 V _{CB} = -10 V f = 1MHz | | | 8 | pF |
| t _{d**} | Delay Time | V _{CC} = -30 V I _C = -150 mA I _{B1} = -15 mA | | | 10 | ns |
| t _{r**} | Rise Time | V _{CC} = -30 V I _C = -150 mA I _{B1} = -15 mA | | | 40 | ns |
| t _{s**} | Storage Time | V _{CC} = -6 V I _C = -150 mA I _{B1} = -I _{B2} = -15 mA | | | 80 | ns |
| t _{f**} | Fall Time | V _{CC} = -6 V I _C = -150 mA I _{B1} = -I _{B2} = -15 mA | | | 30 | ns |
| t _{on**} | Turn-on Time | V _{CC} = -30 V I _C = -150 mA I _{B1} = -15 mA | | | 45 | ns |
| t _{off**} | Turn-off Time | V _{CC} = -6 V I _C = -150 mA I _{B1} = -I _{B2} = -15 mA | | | 100 | ns |

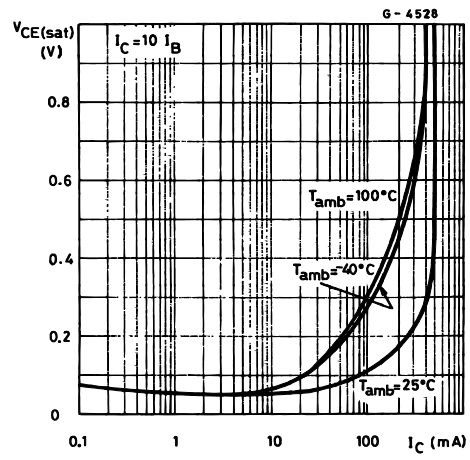
* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 1 %

** See test circuit

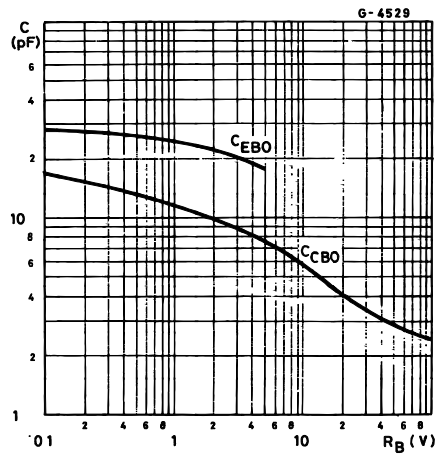
Normalized DC Current Gain.



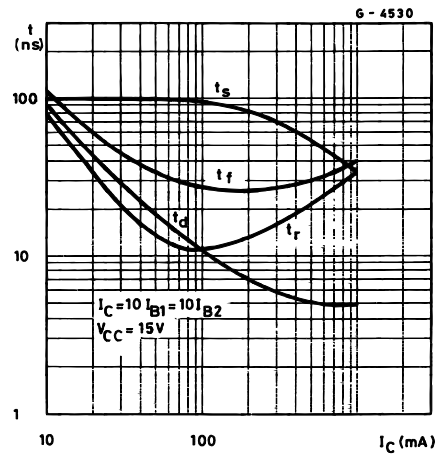
Collector Emitter Saturation Voltage.



Collector Base and Emitter-base capacitances.



Switching Characteristics.



2N2905A/2N2907A

Test Circuit for t_{on} , t_r , t_d .



Test Circuit for t_{off} , t_o , t_f .



TO-18 MECHANICAL DATA

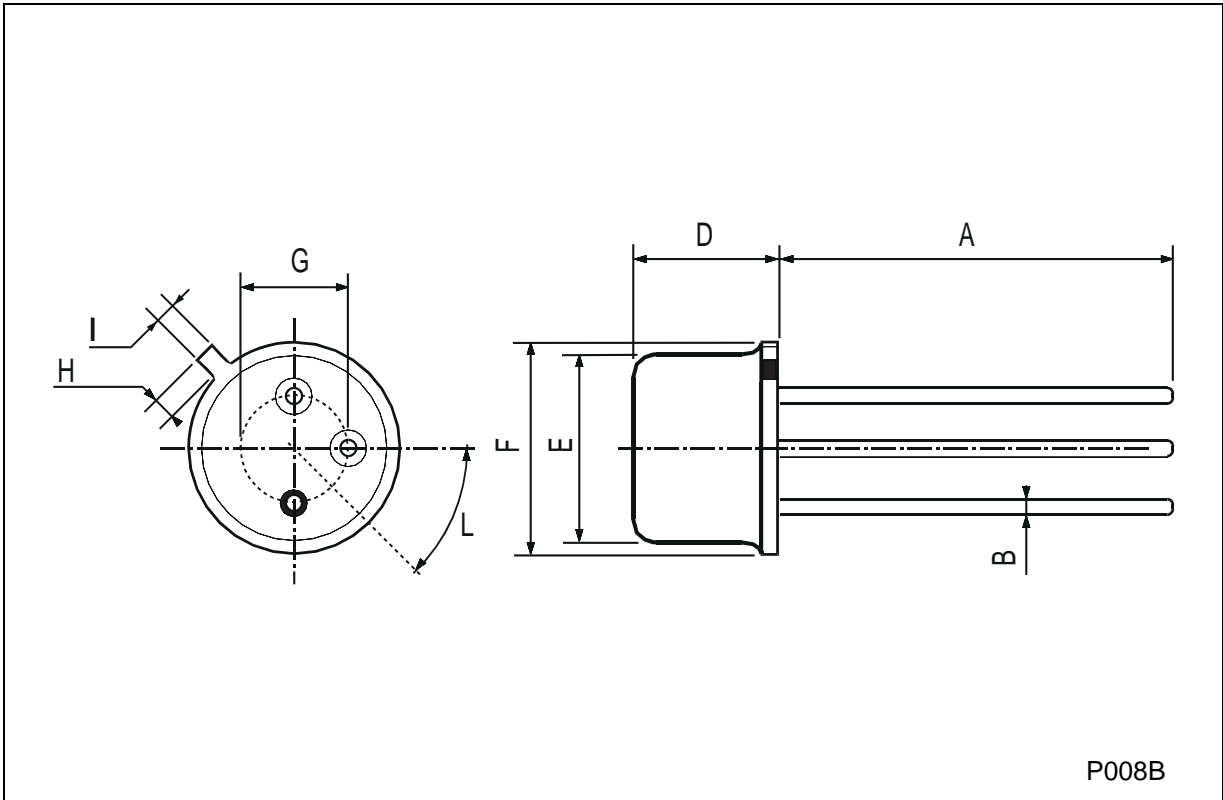
| DIM. | mm | | | inch | | |
|------|------|------|------|-------|-------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | | 12.7 | | | 0.500 | |
| B | | | 0.49 | | | 0.019 |
| D | | | 5.3 | | | 0.208 |
| E | | | 4.9 | | | 0.193 |
| F | | | 5.8 | | | 0.228 |
| G | 2.54 | | | 0.100 | | |
| H | | | 1.2 | | | 0.047 |
| I | | | 1.16 | | | 0.045 |
| L | 45° | | | 45° | | |



0016043

TO-39 MECHANICAL DATA

| DIM. | mm | | | inch | | |
|------|------------|------|------|-------|------|-------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 12.7 | | | 0.500 | | |
| B | | | 0.49 | | | 0.019 |
| D | | | 6.6 | | | 0.260 |
| E | | | 8.5 | | | 0.334 |
| F | | | 9.4 | | | 0.370 |
| G | 5.08 | | | 0.200 | | |
| H | | | 1.2 | | | 0.047 |
| I | | | 0.9 | | | 0.035 |
| L | 45° (typ.) | | | | | |



Information furnished is believed to be accurate and reliable. However, STMicroelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of STMicroelectronics. Specification mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. STMicroelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of STMicroelectronics.

The ST logo is a trademark of STMicroelectronics

© 2003 STMicroelectronics – Printed in Italy – All Rights Reserved

STMicroelectronics GROUP OF COMPANIES

Australia - Brazil - Canada - China - Finland - France - Germany - Hong Kong - India - Israel - Italy - Japan - Malaysia - Malta - Morocco - Singapore - Spain - Sweden - Switzerland - United Kingdom - United States.

<http://www.st.com>

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- Конкуренспособные цены и скидки постоянным клиентам.
- Специальные условия для постоянных клиентов.
- Подбор аналогов.
- Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.
- Приемлемые сроки поставки, возможна ускоренная поставка.
- Доставку товара в любую точку России и стран СНГ.
- Комплексную поставку.
- Работу по проектам и поставку образцов.
- Формирование склада под заказчика.
- Сертификаты соответствия на поставляемую продукцию (по желанию клиента).
- Тестирование поставляемой продукции.
- Поставку компонентов, требующих военную и космическую приемку.
- Входной контроль качества.
- Наличие сертификата ISO.

В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- Регистрацию проекта у производителя компонентов.
- Техническую поддержку проекта.
- Защиту от снятия компонента с производства.
- Оценку стоимости проекта по компонентам.
- Изготовление тестовой платы монтаж и пусконаладочные работы.



Тел: +7 (812) 336 43 04 (многоканальный)

Email: org@lifeelectronics.ru