

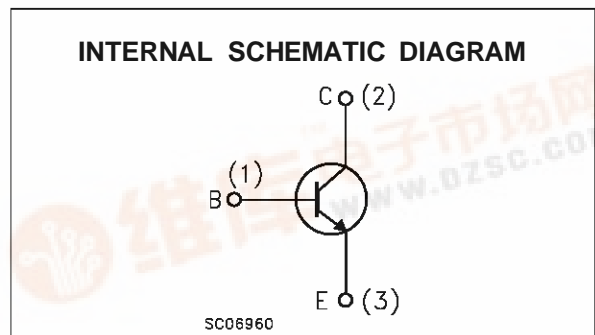


SOA06

SMALL SIGNAL NPN TRANSISTOR

| Type | Marking |
|-------|---------|
| SOA06 | 1GT |

- SILICON EPITAXIAL PLANAR NPN TRANSISTORS
- MINIATURE PLASTIC PACKAGE FOR APPLICATION IN SURFACE MOUNTING CIRCUITS
- MEDIUM CURRENT AF AMPLIFICATION
- PNP COMPLEMENTS IS SOA56



ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Value | Unit |
|-----------|---|------------|------------|
| V_{CBO} | Collector-Base Voltage ($I_E = 0$) | 80 | V |
| V_{CEO} | Collector-Emitter Voltage ($I_B = 0$) | 80 | V |
| V_{EBO} | Emitter-Base Voltage ($I_C = 0$) | 4 | V |
| I_C | Collector Current | 0.5 | A |
| P_{tot} | Total Dissipation at $T_c = 25^\circ C$ | 350 | mW |
| T_{stg} | Storage Temperature | -65 to 150 | $^\circ C$ |
| T_j | Max. Operating Junction Temperature | 150 | $^\circ C$ |



SOA06

THERMAL DATA

| | | | | |
|-----------------|-------------------------------------|-----|-----|------|
| $R_{thj-amb}$ • | Thermal Resistance Junction-Ambient | Max | 350 | °C/W |
|-----------------|-------------------------------------|-----|-----|------|

• Mounted on a ceramic substrate area = 15 x 15 x 0.5 mm

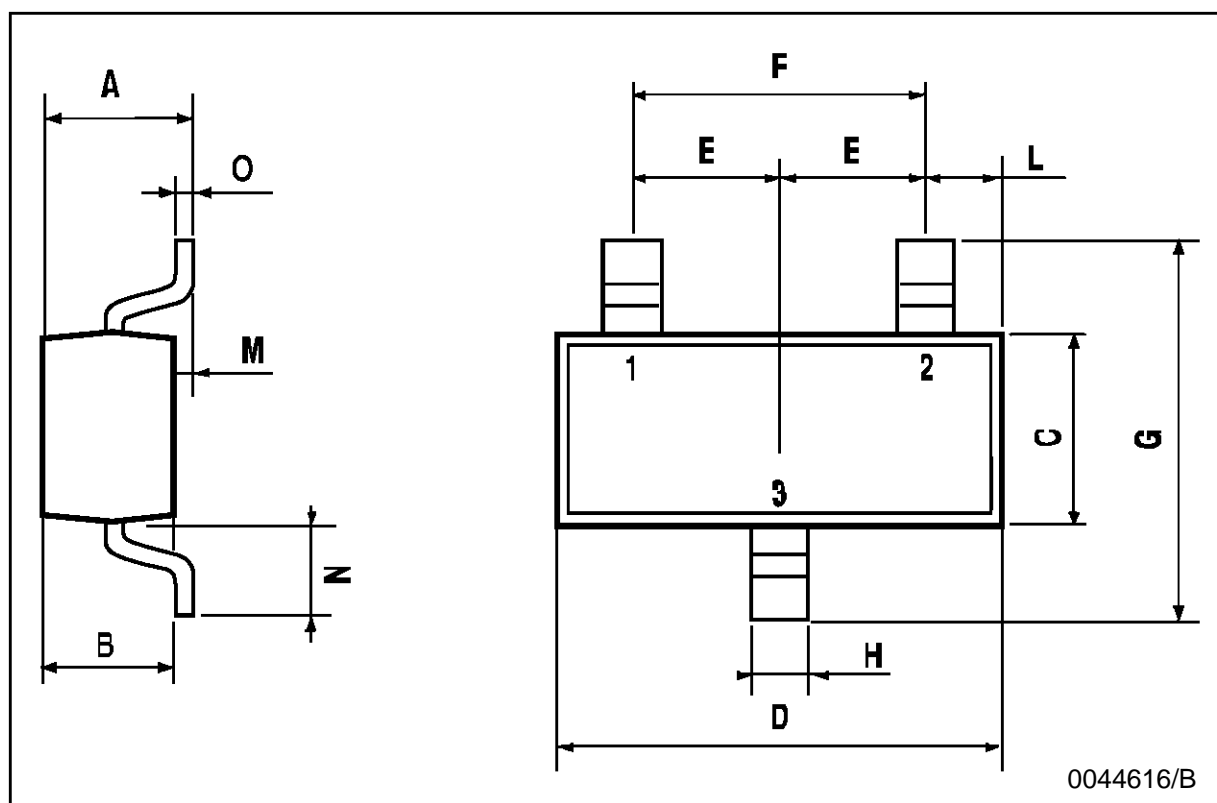
ELECTRICAL CHARACTERISTICS ($T_{case} = 25\text{ °C}$ unless otherwise specified)

| Symbol | Parameter | Test Conditions | Min. | Typ. | Max. | Unit |
|-----------------|---|---|----------|------|------|------|
| I_{CBO} | Collector Cut-off Current ($I_E = 0$) | $V_{CB} = 80\text{ V}$ | | | 100 | nA |
| I_{CEO} | Collector Cut-off Current ($I_E = 0$) | $V_{CE} = 60\text{ V}$ | | | 100 | nA |
| $V_{(BR)CEO}$ * | Collector-Emitter Breakdown Voltage ($I_B = 0$) | $I_C = 1\text{ mA}$ | 80 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage ($I_C = 0$) | $I_E = 100\text{ }\mu\text{A}$ | 4 | | | V |
| $V_{CE(sat)}$ * | Collector-Emitter Saturation Voltage | $I_C = 100\text{ mA}$ $I_B = 10\text{ mA}$ | | | 0.25 | V |
| $V_{BE(on)}$ * | Base-Emitter On Voltage | $I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$ | | | 1.2 | V |
| h_{FE} * | DC Current Gain | $I_C = 10\text{ mA}$ $V_{CE} = 1\text{ V}$ $I_C = 100\text{ mA}$ $V_{CE} = 1\text{ V}$ | 50 50 | | | |
| f_T | Transition Frequency | $I_C = 10\text{ mA}$ $V_{CE} = 2\text{ V}$ $f = 100\text{ MHz}$ | 100 | | | MHz |

* Pulsed: Pulse duration = 300 μs , duty cycle $\leq 2\%$

SOT-23 MECHANICAL DATA

| DIM. | mm | | | mils | | |
|------|------|------|------|-------|------|------|
| | MIN. | TYP. | MAX. | MIN. | TYP. | MAX. |
| A | 0.85 | | 1.1 | 33.4 | | 43.3 |
| B | 0.65 | | 0.95 | 25.6 | | 37.4 |
| C | 1.20 | | 1.4 | 47.2 | | 55.1 |
| D | 2.80 | | 3 | 110.2 | | 118 |
| E | 0.95 | | 1.05 | 37.4 | | 41.3 |
| F | 1.9 | | 2.05 | 74.8 | | 80.7 |
| G | 2.1 | | 2.5 | 82.6 | | 98.4 |
| H | 0.38 | | 0.48 | 14.9 | | 18.8 |
| L | 0.3 | | 0.6 | 11.8 | | 23.6 |
| M | 0 | | 0.1 | 0 | | 3.9 |
| N | 0.3 | | 0.65 | 11.8 | | 25.6 |
| O | 0.09 | | 0.17 | 3.5 | | 6.7 |



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics 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 SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1995 SGS-THOMSON Microelectronics - Printed in Italy - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
Australia - Brazil - Canada - China - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A