



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

AML2002 — NPN Epitaxial Planar Silicon Transistor LED Back Light

Features

- $V_{CE0}=200V, I_C=0.7A$
- Low collector-to-emitter saturation voltage $V_{CE(sat)}=0.125V(\text{typ.})@I_C=0.35A$
- High-speed switching $t_f=70ns(\text{typ.})@I_C=0.3A$
- The plastic-covered heat sink eliminates the need for an insulator when mounting the AML2002

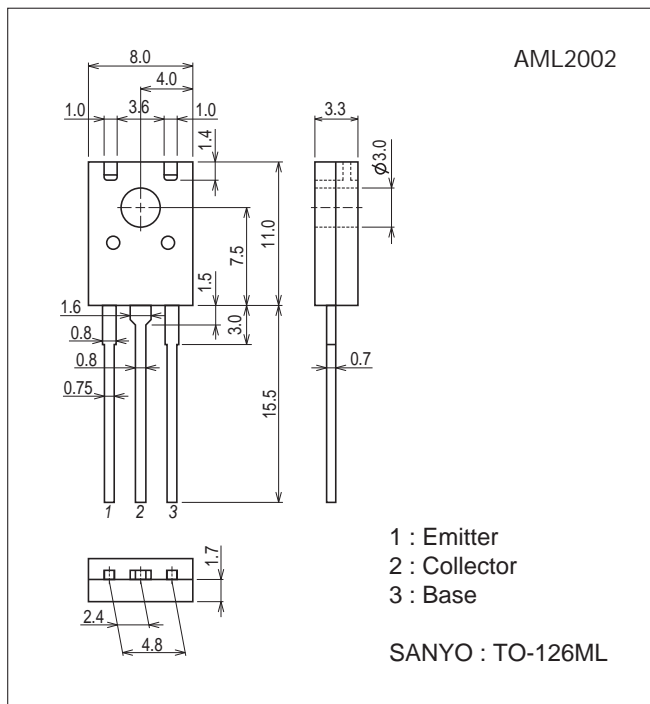
Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

| Parameter | Symbol | Conditions | Ratings | Unit |
|------------------------------|-----------|------------------|-------------|------------|
| Collector-to-Base Voltage | V_{CBO} | | 220 | V |
| Collector-to-Emitter Voltage | V_{CEO} | | 200 | V |
| Emitter-to-Base Voltage | V_{EBO} | | 8 | V |
| Collector Current | I_C | | 0.7 | A |
| Collector Current (Pulse) | I_{CP} | | 2 | A |
| Collector Dissipation | P_C | | 1.5 | W |
| | | $T_c=25^\circ C$ | 10 | W |
| Junction Temperature | T_j | | 150 | $^\circ C$ |
| Storage Temperature | T_{stg} | | -55 to +150 | $^\circ C$ |

Package Dimensions

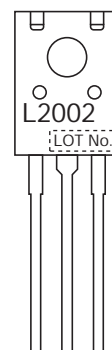
unit : mm (typ)
7516A-002



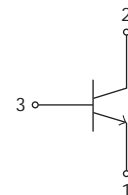
Product & Package Information

- Package : TO-126ML
- JEITA, JEDEC : TO-126
- Minimum Packing Quantity : 200 pcs./bag

Marking



Electrical Connection

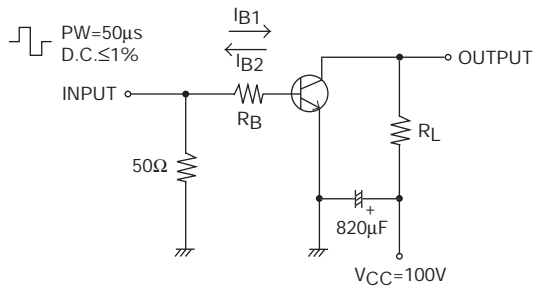


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Electrical Characteristics at Ta=25°C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---------------|-----------------------------|---------|------|-----|---------|
| | | | min | typ | max | |
| Collector Cutoff Current | I_{CBO} | $V_{CB}=100V, I_E=0A$ | | | 1 | μA |
| Emitter Cutoff Current | I_{EBO} | $V_{EB}=4V, I_C=0A$ | | | 1 | μA |
| DC Current Gain | h_{FE} | $V_{CE}=5V, I_C=100mA$ | 200 | | 560 | |
| Gain-Bandwidth Product | f_T | $V_{CE}=10V, I_C=100mA$ | | 120 | | MHz |
| Output Capacitance | C_{ob} | $V_{CB}=10V, f=1MHz$ | | 9 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C=0.35A, I_B=35mA$ | | 125 | 220 | mV |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C=0.35A, I_B=35mA$ | | 0.82 | 1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C=10\mu A, I_E=0A$ | 220 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C=1mA, R_{BE}=\infty$ | 200 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E=10\mu A, I_C=0A$ | 8 | | | V |
| Turn-On Time | t_{on} | See specified Test Circuit. | | 50 | | ns |
| Storage Time | t_{stg} | | | 2 | | μs |
| Fall Time | t_f | | | 70 | | ns |

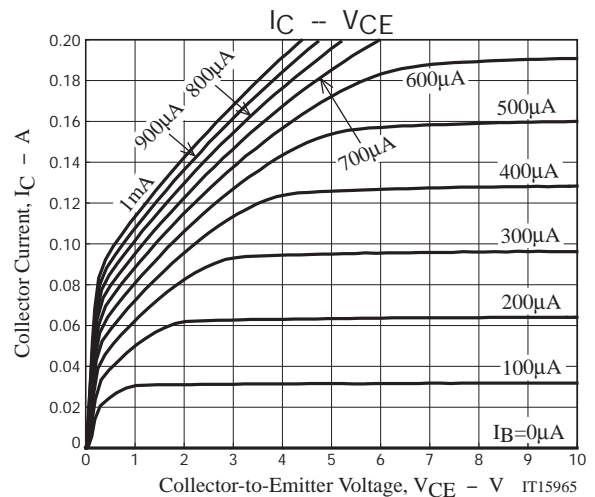
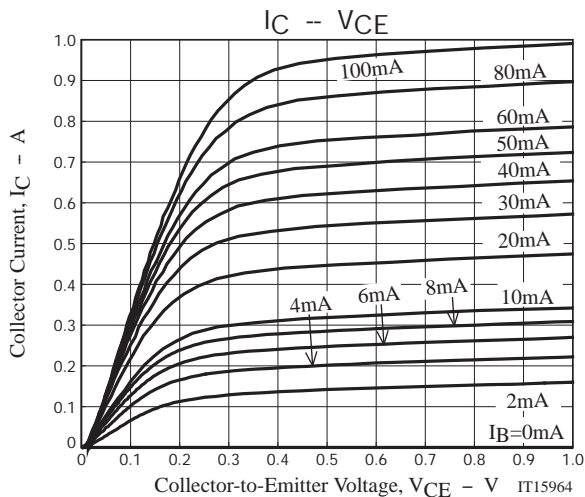
Switching Time Test Circuit

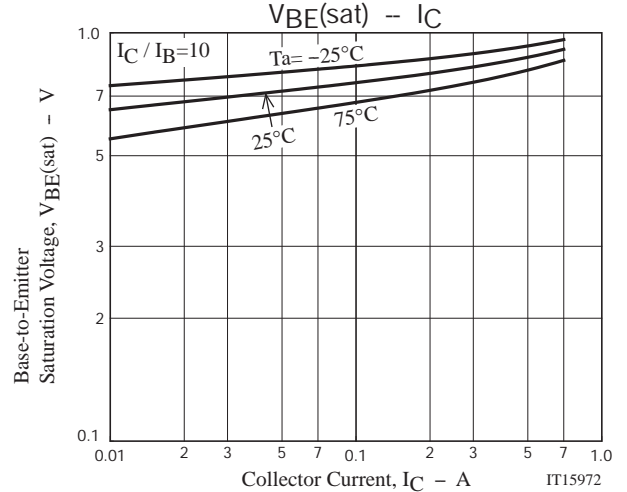
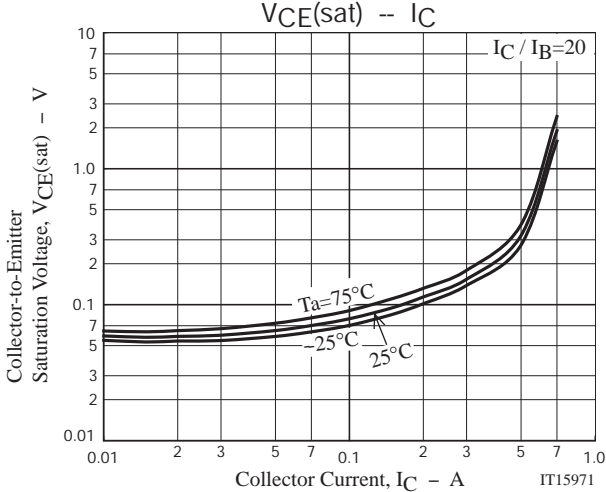
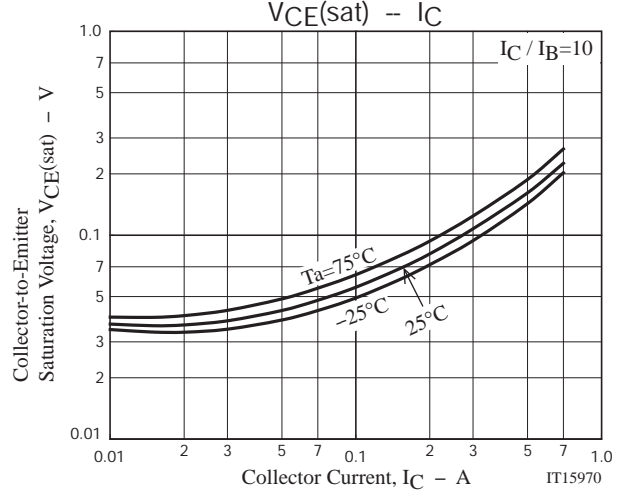
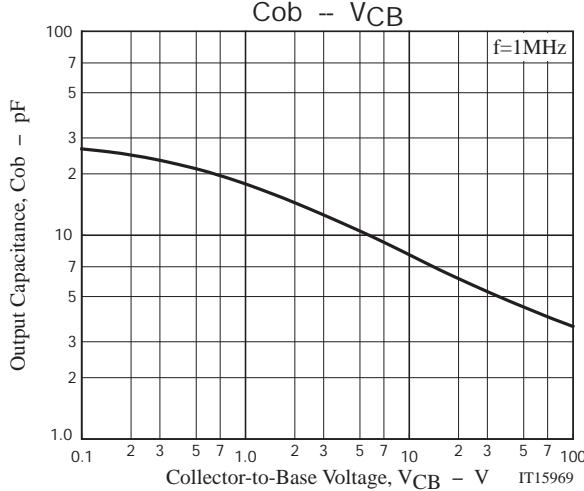
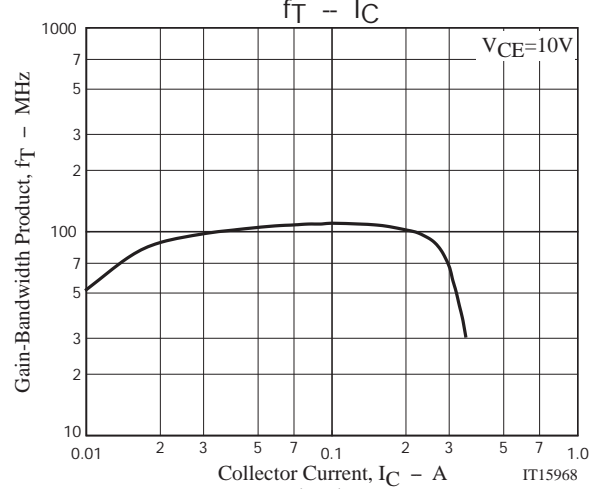
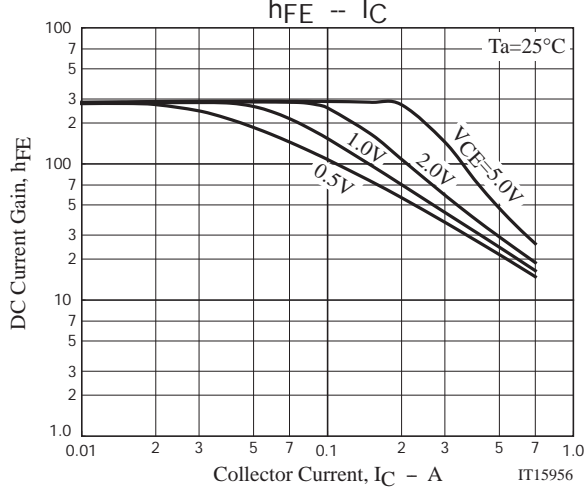
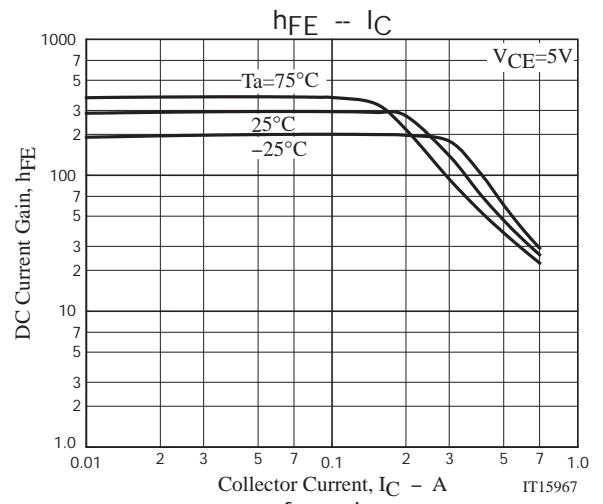
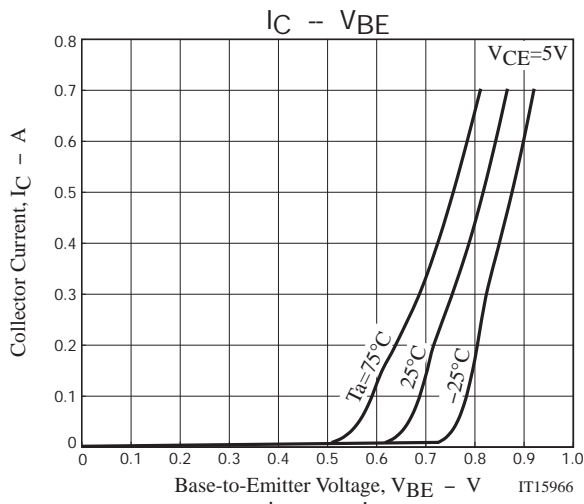


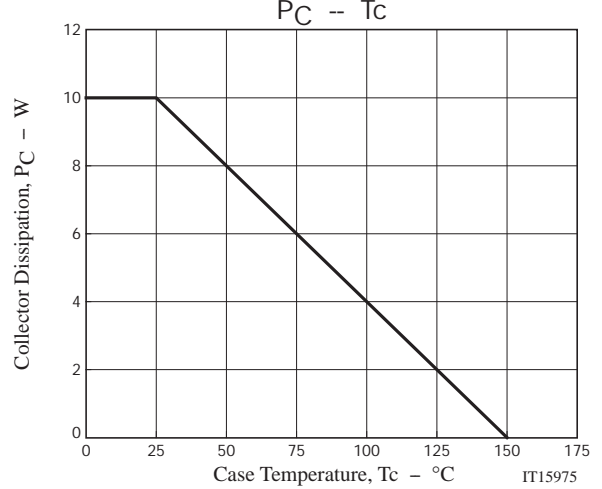
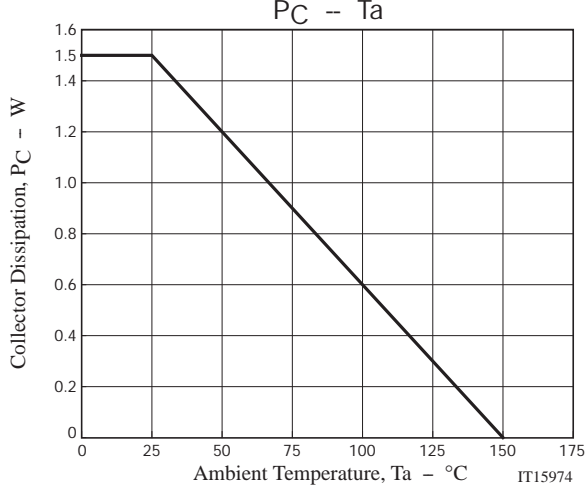
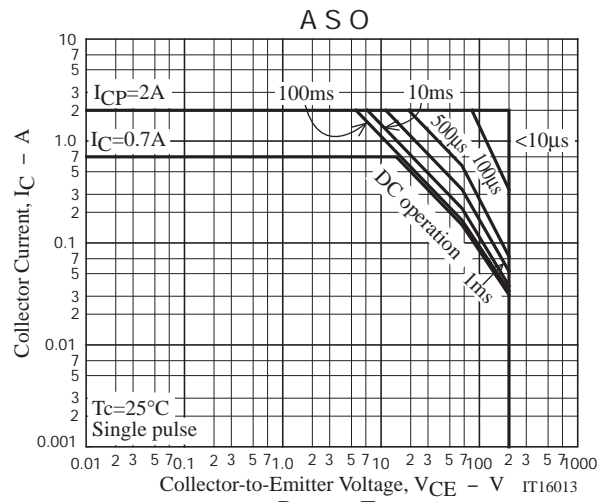
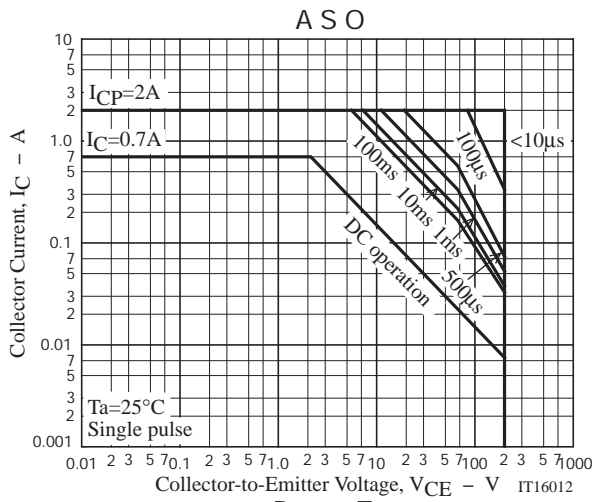
$$I_C=10I_{B1}=-10I_{B2}=0.3A$$

Ordering Information

| Device | Package | Shipping | memo |
|---------|----------|-------------|---------|
| AML2002 | TO-126ML | 200pcs./bag | Pb Free |







Bag Packing Specification

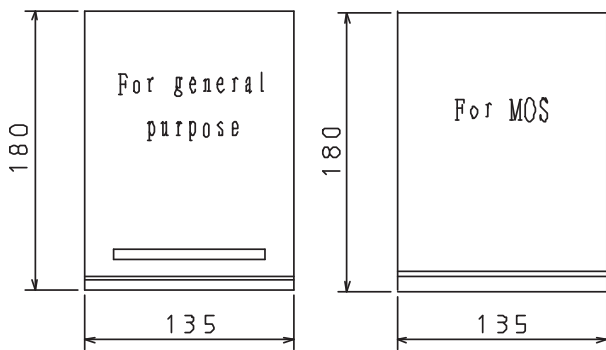
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1. Packing Format

| Package Name | Maximum Number of devices contained (pcs) | | | Packing format | |
|--------------|---|-----------|-----------|--|---|
| | Bag | Inner box | Outer box | Inner BOX | Outer BOX |
| TO-126ML | 200 | 4,000 | 12,000 | B-1 20 bags contained Dimensions:mm (external) 445×225×55 | A-2 3 inner boxes contained Dimensions:mm (external) 470×250×190 |

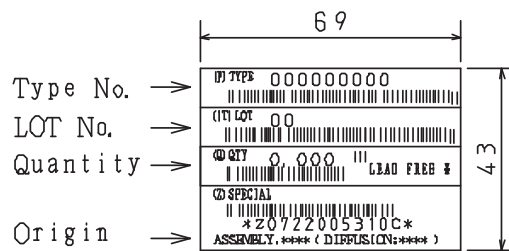
2. Bag dimensions

(unit:mm)



3. Bag label, Inner box label

(unit:mm)



NOTE (1)

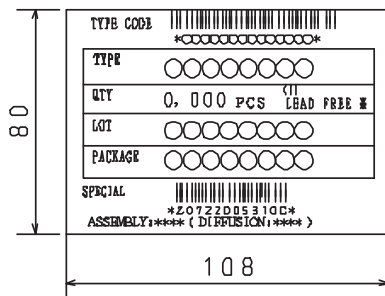
The LEAD FREE # description shows that the surface treatment of the terminal is lead free.

| Label | JEITA Phase |
|-------------|----------------|
| LEAD FREE 3 | JEITA Phase 3A |
| LEAD FREE 4 | JEITA Phase 3 |

4. Outer box label

(unit:mm)

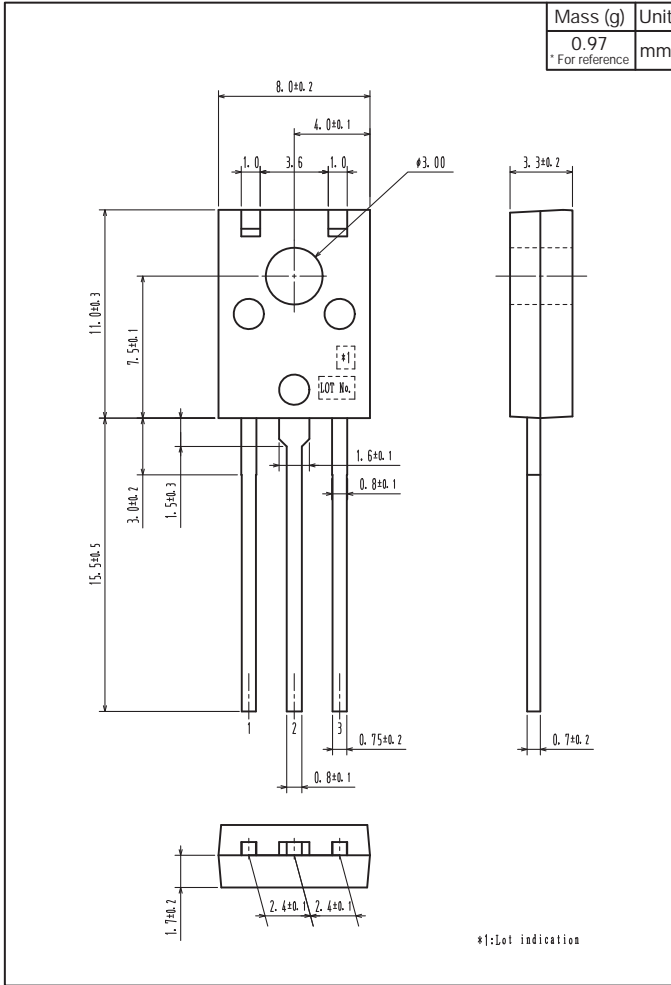
It is a label at the time of factory shipments.
The form of a label may change in physical distribution process.



AML2002

Outline Drawing

AML2002



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