

## TO-92MOD Plastic-Encapsulate Transistors

### 2SC1627A TRANSISTOR (NPN)

#### FEATURE

- Complementary to 2SA817A
- Driver Stage Application of 30 to 35 Watts Amplifiers

#### MAXIMUM RATINGS( $T_a=25^{\circ}\text{C}$ unless otherwise noted)

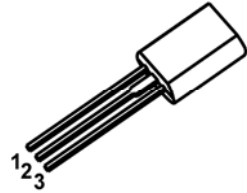
| Symbol    | parameter                     | Value   | Unit               |
|-----------|-------------------------------|---------|--------------------|
| $V_{CBO}$ | Collector-Base Voltage        | 80      | V                  |
| $V_{CEO}$ | Collector-Emitter Voltage     | 80      | V                  |
| $V_{EBO}$ | Emitter-Base Voltage          | 5       | V                  |
| $I_C$     | Collector Current -Continuous | 0.4     | A                  |
| $P_C$     | Collector Power Dissipation   | 0.8     | W                  |
| $T_j$     | Junction Temperature          | 150     | $^{\circ}\text{C}$ |
| $T_{stg}$ | Storage Temperature Range     | -55-150 | $^{\circ}\text{C}$ |

#### TO-92MOD

1. EMITTER

2. COLLECTOR

3. BASE



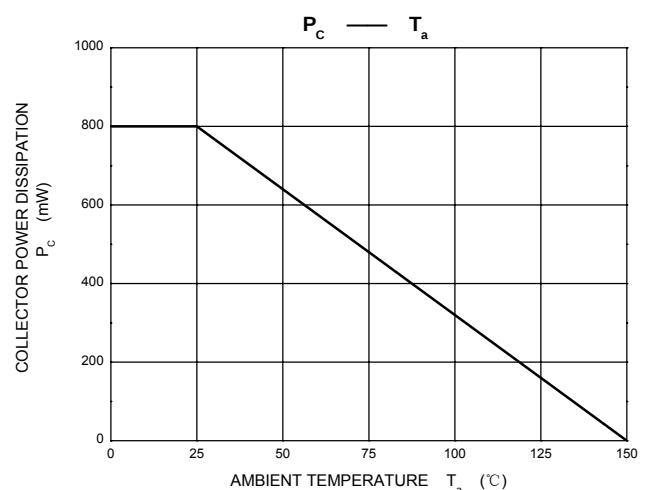
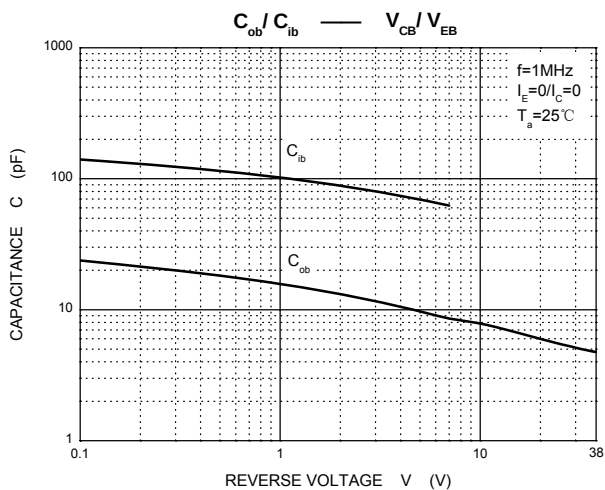
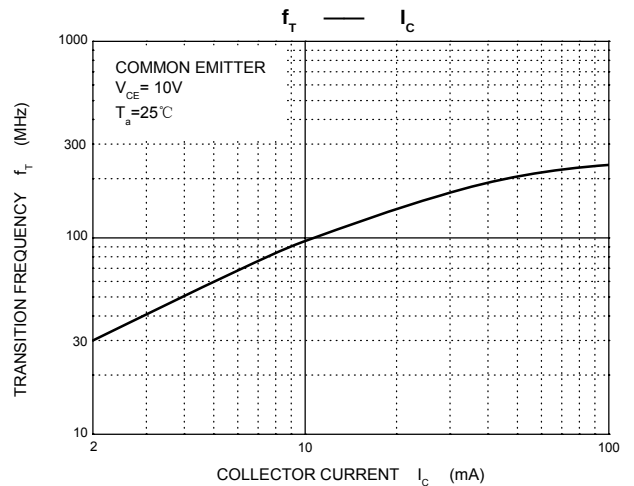
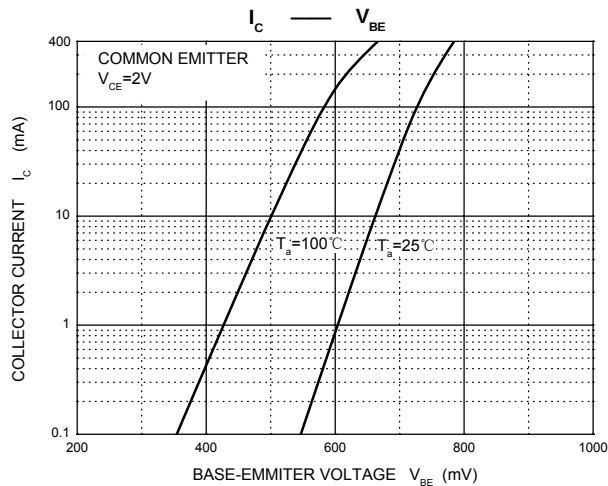
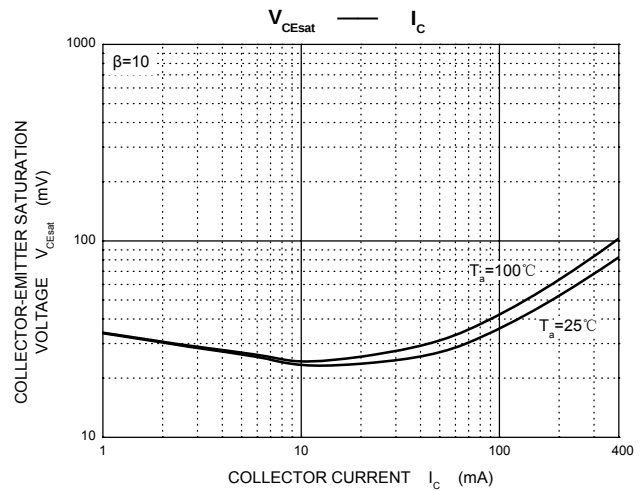
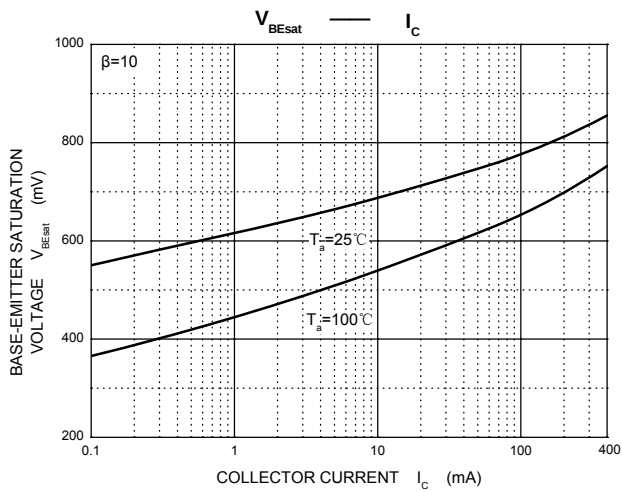
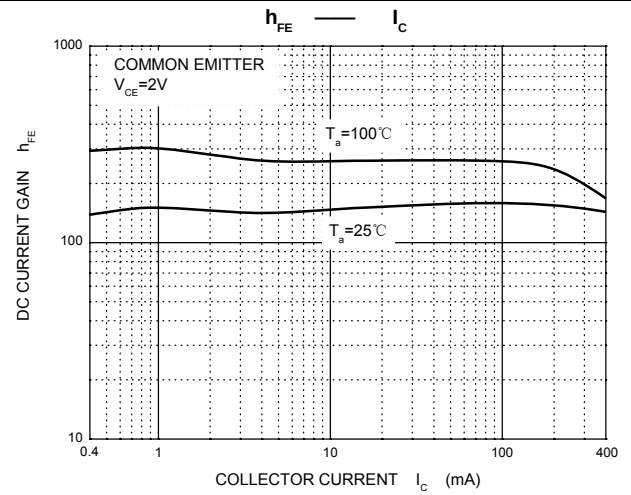
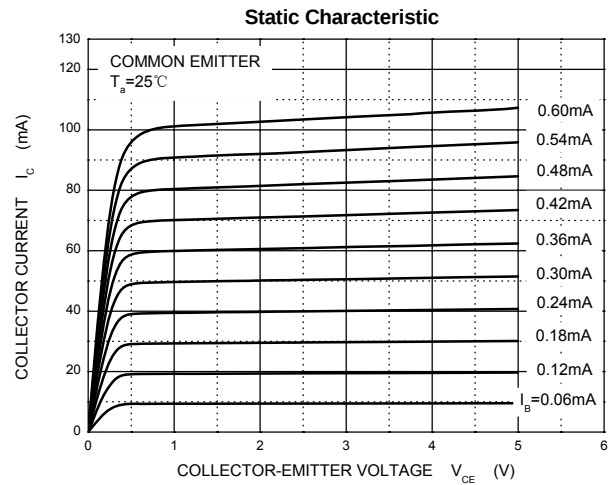
#### ELECTRICAL CHARACTERISTICS ( $T_a=25^{\circ}\text{C}$ unless otherwise specified)

| Parameter                            | Symbol        | Test conditions                         | Min  | Typ | Max | Unit          |
|--------------------------------------|---------------|-----------------------------------------|------|-----|-----|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=100\mu\text{A}$ , $I_E=0$          | 80   |     |     | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=5\text{mA}$ , $I_B=0$              | 80   |     |     | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=100\mu\text{A}$ , $I_C=0$          | 5    |     |     | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=50\text{V}$ , $I_E=0$           |      |     | 0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=5\text{V}$ , $I_C=0$            |      |     | 0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE(1)}$   | $V_{CE}=2\text{V}$ , $I_C=50\text{mA}$  | 70   |     | 240 |               |
|                                      | $h_{FE(2)}$   | $V_{CE}=2\text{V}$ , $I_C=200\text{mA}$ | 40   |     |     |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=200\text{mA}$ , $I_B=20\text{mA}$  |      |     | 0.4 | V             |
| Base-emitter voltage                 | $V_{BE(on)}$  | $V_{CE}=2\text{V}$ , $I_C=5\text{mA}$   | 0.55 |     | 0.8 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=10\text{V}$ , $I_C=10\text{mA}$ |      | 100 |     | MHz           |

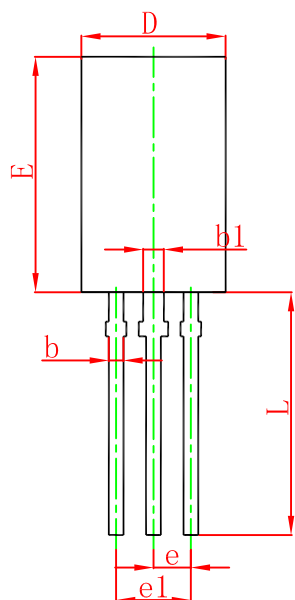
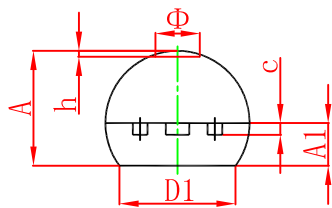
#### CLASSIFICATION OF $h_{FE(1)}$

| Rank  | O      | Y       |
|-------|--------|---------|
| Range | 70-140 | 120-240 |

# Typical Characteristics

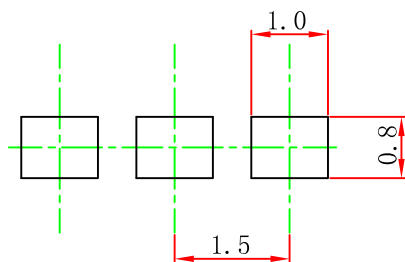


TO-92MOD Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 4.800                     | 5.000  | 0.189                | 0.197 |
| A1     | 1.730                     | 2.030  | 0.068                | 0.080 |
| b      | 0.440                     | 0.600  | 0.017                | 0.024 |
| b1     | 0.940                     | 1.100  | 0.037                | 0.043 |
| c      | 0.350                     | 0.450  | 0.014                | 0.018 |
| D      | 5.900                     | 6.100  | 0.232                | 0.240 |
| D1     | 4.000                     |        | 0.157                |       |
| E      | 8.500                     | 8.700  | 0.335                | 0.343 |
| e      | 1.500 TYP.                |        | 0.059 TYP.           |       |
| e1     | 2.900                     | 3.100  | 0.114                | 0.122 |
| L      | 13.800                    | 14.200 | 0.543                | 0.559 |
| Φ      |                           | 1.600  |                      | 0.063 |
| h      | 0.000                     | 0.380  | 0.000                | 0.015 |

TO-92MOD Suggested Pad Layout

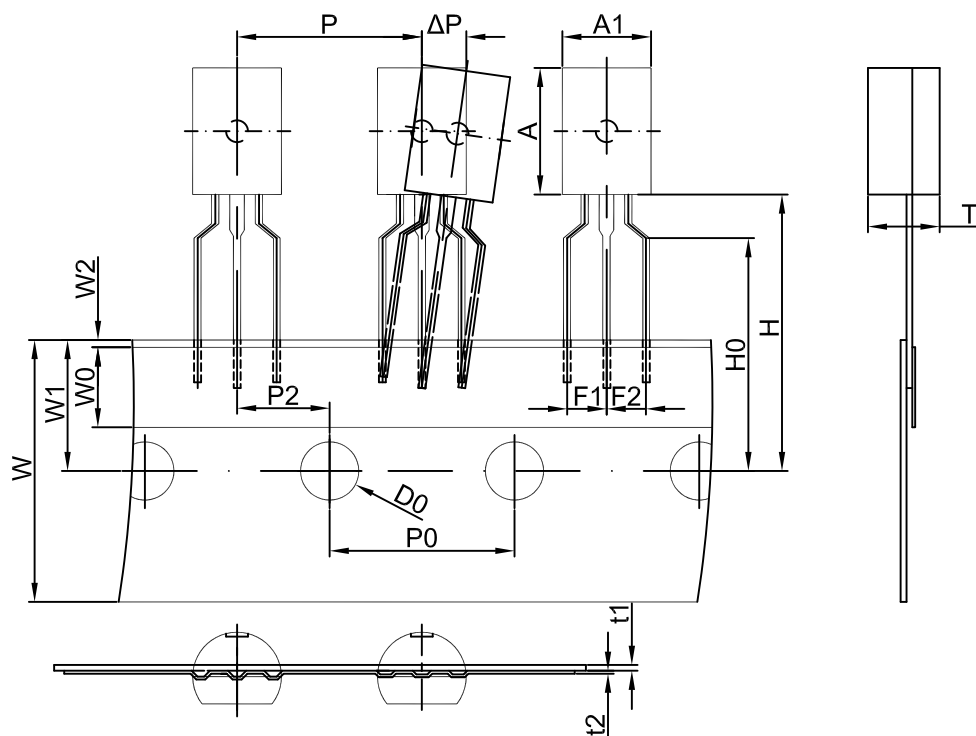


- Note:
- 1.Controlling dimension:in millimeters.
  - 2.General tolerance:±0.05mm.
  - 3.The pad layout is for reference purposes only.

NOTICE

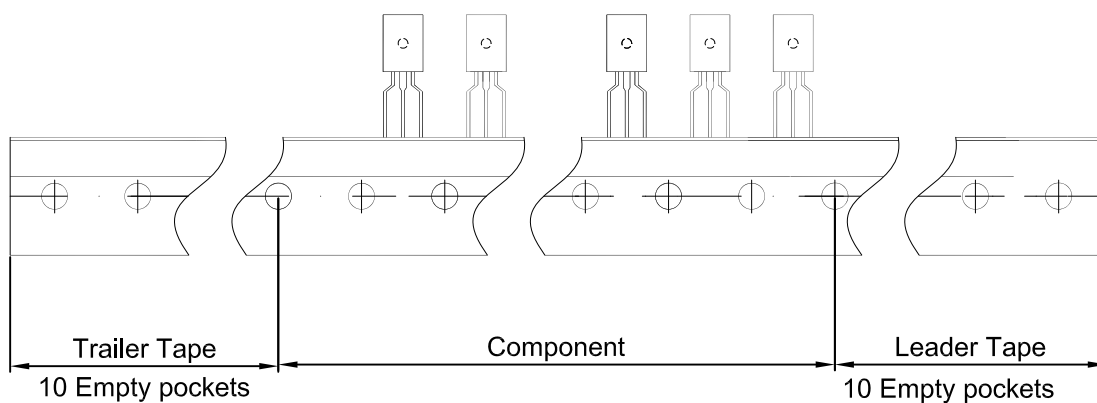
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## TO-92MOD PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

| A1  | A   | T   | P    | P0   | P2   | F1  | F2  | W    |
|-----|-----|-----|------|------|------|-----|-----|------|
| 6.0 | 8.6 | 4.9 | 12.7 | 12.7 | 6.35 | 2.5 | 2.5 | 18.0 |
| W0  | W1  | W2  | H    | H0   | D0   | t1  | t2  | ΔP   |
| 6.0 | 9.0 | 1.0 | 19.0 | 16.0 | 4.0  | 0.4 | 0.2 | 0    |



| Package  | Box      | Box Size(mm) | Carton     | Carton Size(mm) |
|----------|----------|--------------|------------|-----------------|
| TO-92MOD | 2000 pcs | 333×245×43   | 20,000 pcs | 573×404×266     |