TO-92LM NPN Silicon NPN transistor in a TO-92LM Plastic Package.

, 2SB1240

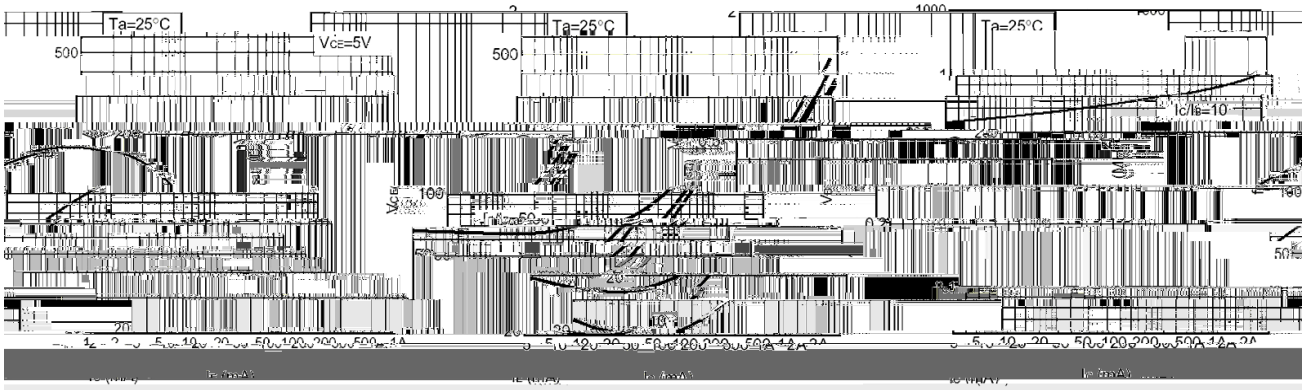
Low V

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | 40 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | 32 | V |
| Emitter to Base Voltage | $V_{EBO}$ | 5.0 | V |
| Collector Current (DC) | $I_C$ | 2.0 | A |
| Collector Current (Pulse) | $I_{CP}$ | 2.5 | A |
| Collector Power Dissipation | $P_C$ | 1.0 | W |
| Junction Temperature | $T_j$ | 150 | |
| Storage Temperature Range | $T_{stg}$ | -55 150 | |

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector to Base Breakdown Voltage | $V_{CBO}$ | $I_C$=50μA $I_B$=0 | 40 | | | V |
| Collector to Emitter Breakdown Voltage | $V_{CEO}$ | $I_C$=1.0mA $I_B$=0 | 32 | | | V |
| Emitter to Base Breakdown Voltage | $V_{EBO}$ | $I_E$=50μA $I_C$=0 | 5.0 | | | V |
| Collector Cut-Off Current | $I_{CBO}$ | $V_{CB}$=20V $I_E$=0 | | | 1.0 | μA |
| Emitter Cut-Off Current | $I_{EBO}$ | $V_{EB}$=4.0V $I_C$=0 | | | 1.0 | μA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=3.0V $I_C$=0.5A | 120 | | 390 | |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=2.0A $I_B$=0.2A | | 0.5 | 0.8 | V |
| Transition Frequency | $f_T$ | $V_{CE}$=5.0V $I_C$=50mA f=100MHz | | 100 | | MHz |
| Collector output capac4fance | $C_{ob}$ | $V_{CB}$=10V $I_E$=0 f=1.0MHz | | 30 | | pF |

## / Electrical Characteristic Curve

VCE(sat) – Ic

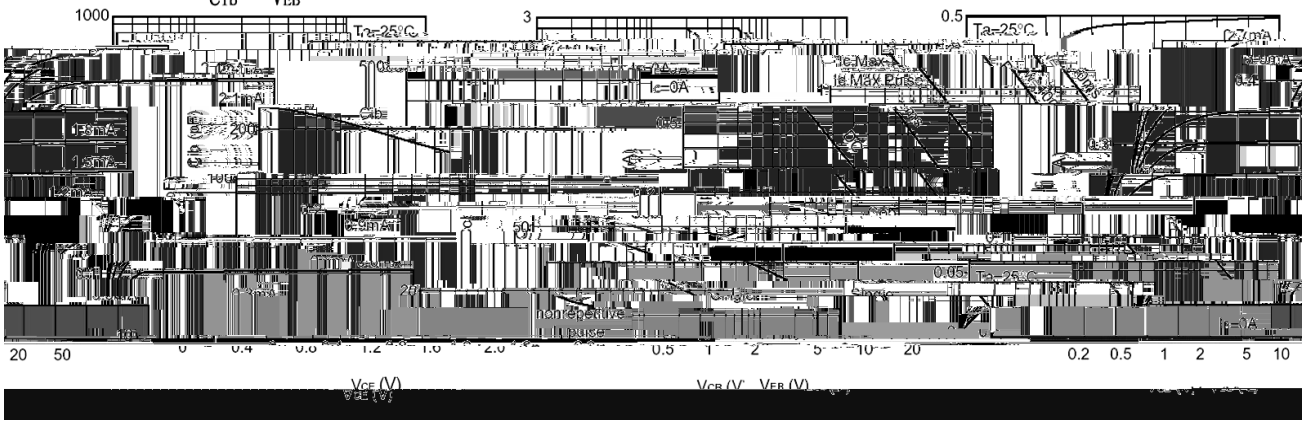



VBE(sat) – Ic

fT – IE

Cob – VCB

Cib – VEB




Ic – VCE

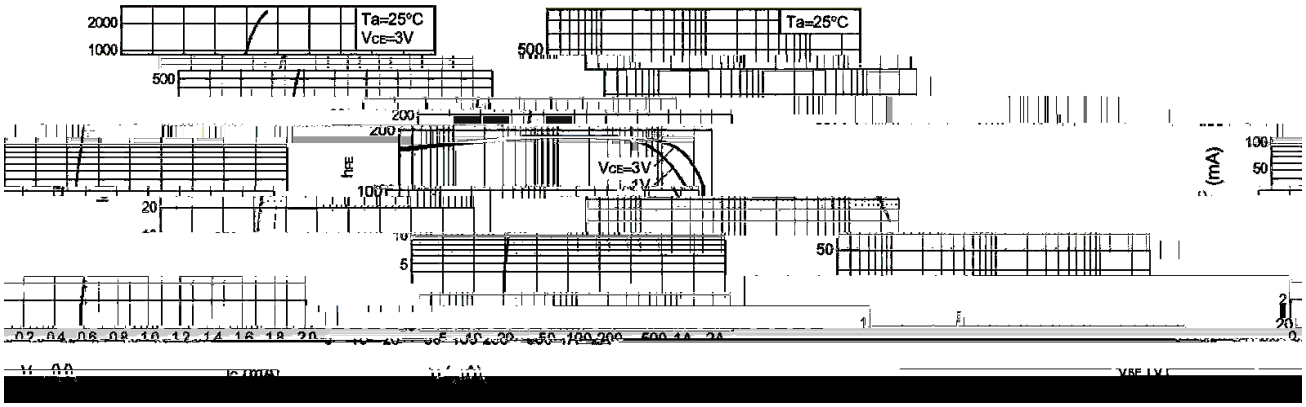



Ic – VCE



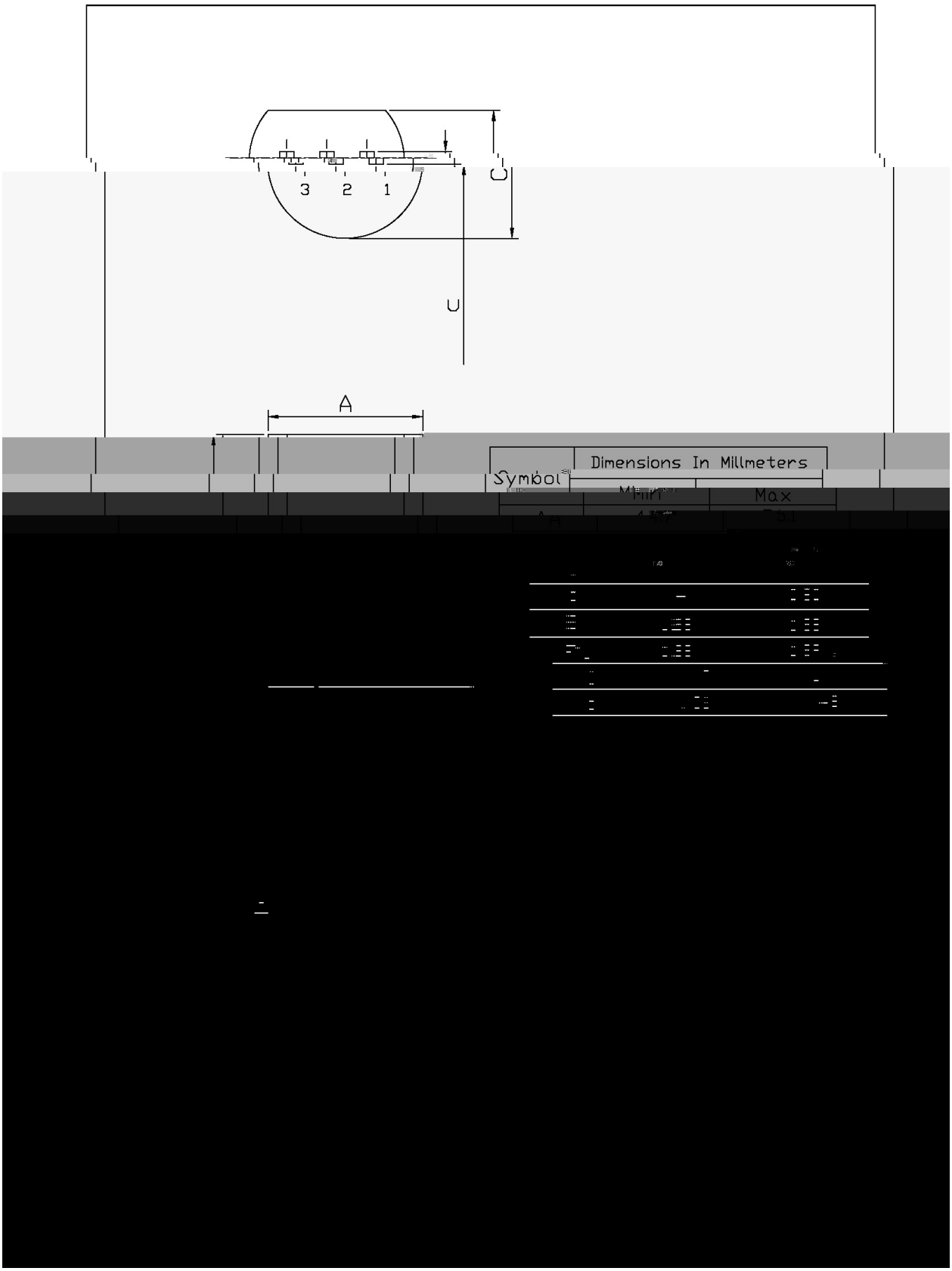

Ic – VBE

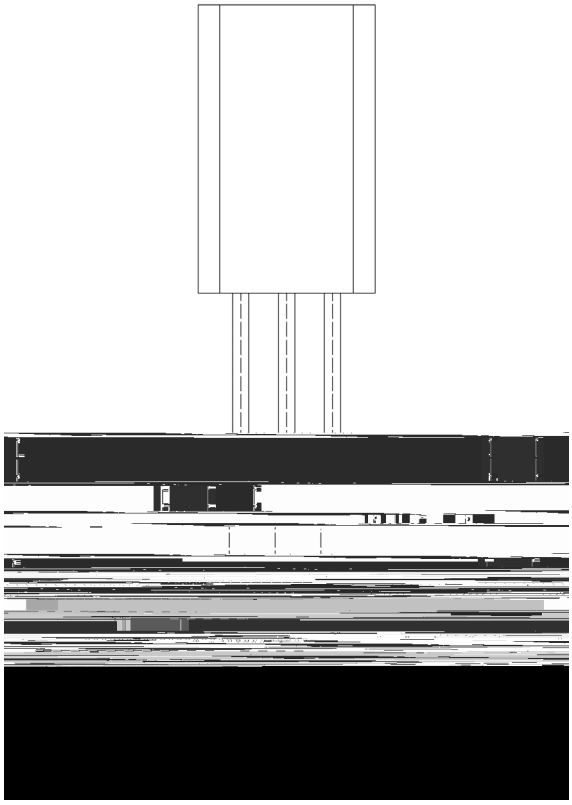
hFE – Ic



## / PackageDimensions

TO-92LM Unit: mm





## ( ) / Temperature Profile for Dip Soldering(Pb-Free)

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | Note: |
| 1 | | 25 | 150 | | 60 | 90sec; | 1.Preheating:25~150 , Time:60~90sec. |
| 2 | | 255±5 | | | | 5±0.5sec; | 2.Peak Temp.:255±5 , Duration:5±0.5sec. |
| 3 | | | | 2 | 10 | /sec. | 3. Cooling Speed: 2~10 /sec. |

| | | |
|---|---|---|
| 270±5 | 10±1 sec. | Temp.:270±5 |