Micro Commercial Components
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# 2SB1140-R
# 2SB1140-S

## PNP
## Plastic-Encapsulate Transistors

## Features

- Power dissipation: $P_{CM}$ = 0.5W($T_{amb}$=25℃)
- Collector current: $I_{CM}$ = -2A
- Collector-base voltage: $V_{(BR)CBO}$ = -50V
- Operating and storage junction temperature range
  $T_J$, $T_{stg}$: -55℃ to + 150℃
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1
- Halogen free available upon request by adding suffix "-HF"

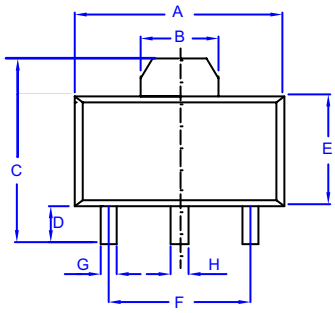
## Electrical Characteristics @ 25℃ Unless Otherwise Specified

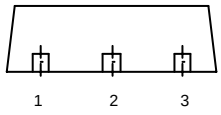
| Symbol | Parameter | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| $V_{CEO}$ | Collector-Emitter Breakdown Voltage ($I_C$=-1000μA, $I_B$=0) | -50 | --- | --- | V |
| $V_{CBO}$ | Collector-Base Breakdown Voltage ($I_C$=-10μA, $I_E$=0) | -50 | --- | --- | V |
| $V_{EBO}$ | Emitter-Base Voltage ($I_E$=-10μA, $I_C$=0) | -5.0 | --- | --- | V |
| $I_{CBO}$ | Collector Cut-off Current ($V_{CB}$=-50V, $I_E$=0) | --- | --- | -1.0 | μA |
| $I_{EBO}$ | Emitter Cut-off Current ($V_{EB}$=-5V, $I_C$=0) | --- | --- | -1.0 | μA |
| $h_{FE1}$ | DC Current Gain ($V_{CE}$=-2V, $I_C$=-0.2A) | 120 | --- | 340 | --- |
| $h_{FE2}$ | DC Current Gain ($V_{CE}$=-2V, $I_C$=-1A) | 60 | --- | --- | --- |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage ($I_C$=-1A, $I_B$=-50mA) | --- | --- | -0.3 | V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage ($I_C$=-1A, $I_B$=-50mA) | --- | --- | -1.2 | V |
| $f_T$ | Transition Frequency ($V_{CE}$=-10Vdc, $I_C$=50mAdc, f=200MHz) | --- | 80 | --- | MHz |
| Cob | Collector output capacitance ($V_{CB}$=-10V, $I_E$=0, f=1MHz) | --- | --- | 80 | PF |

## CLASSIFICATION OF $h_{FE}$

| Rank | R | S |
|---|---|---|
| Range | 120-240 | 170-340 |
| Marking | 1L | |

## SOT-89




1.BASE
2.COLLECTOR
3.EMITTER

| DIM | DIMENSINS | | | | NOTES |
|---|---|---|---|---|---|
| | INCHES | | MM | | |
| | MIN | MAX | MIN | MAX | |
| A | .173 | .181 | 4.39 | 4.60 | |
| B | .063 | .071 | 1.60 | 1.80 | |
| C | .154 | .165 | 3.91 | 4.25 | |
| D | .031 | .039 | 0.80 | 1.00 | |
| E | .092 | .100 | 2.34 | 2.54 | |
| F | .118 | ----- | 3.00 | ----- | TYP |
| G | .013 | .019 | 0.33 | 0.48 | |
| H | .015 | .021 | 0.38 | 0.53 | |
| J | .015 | .016 | 0.38 | 0.41 | |
| K | .055 | .063 | 1.40 | 1.60 | |

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## Ordering Information :

| Device | Packing |
|---|---|
| Part Number-TP | Tape&Reel;1Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF


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