



2SB1427W6

PNP Low Vce(sat) Transistor

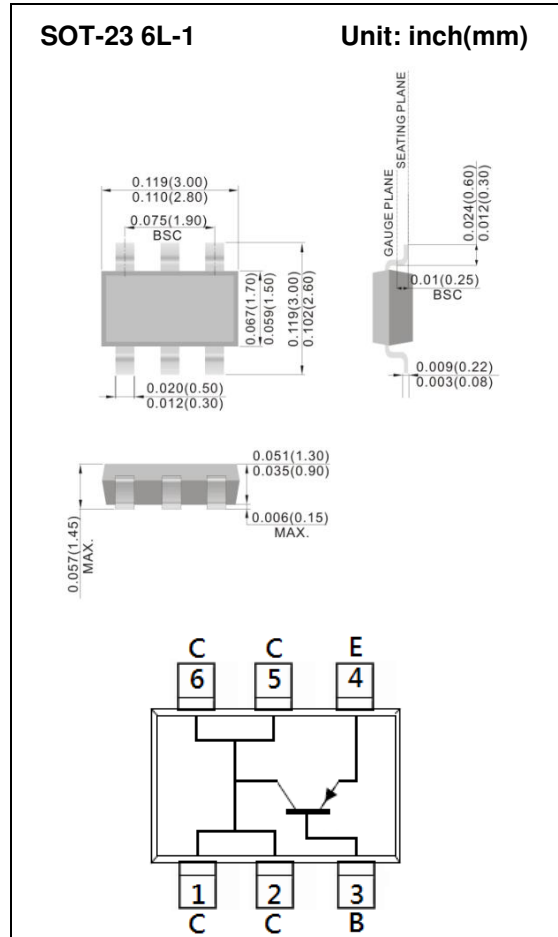
Voltage 20V **Current** 3A

Features

- Silicon PNP epitaxial type
- Low Vce(sat) -0.2V(max)@Ic/Ib=-1.6A/-53mA
- High collector current capability
- Excellent DC current gain characteristics
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case: SOT-23 6L-1 Package
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.0005 ounces, 0.014 grams
- Marking: B27



Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | LIMIT | UNITS |
|---|-----------------------------------|---------|-------|
| Collector-Base Voltage | V _{CBO} | -20 | V |
| Collector-Emitter Voltage | V _{CEO} | -20 | V |
| Emitter-Base Voltage | V _{EBO} | -7 | V |
| Collector Current (DC) | I _c | -3 | A |
| Collector Current (Pulse) | I _{CP} | -5 | A |
| Base Current | I _B | -0.3 | A |
| Collector Power Dissipation | P _D | 1.2 | W |
| Operating Junction and Storage Temperature Range | T _J , T _{STG} | -55~150 | °C |
| Typical Thermal Resistance from Junction to Ambient ^(Note) | R _{θJA} | 104 | °C/W |

Note: Mounted on FR4 PCB at 1 inch square copper pad.



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Electrical Characteristics (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNITS |
|---|----------------------|---|------|------|------|-------|
| OFF Characteristics | | | | | | |
| Collector-Emitter Breakdown Voltage | BV _{CEO} | I _C = -10mA, I _B = 0A | -20 | -30 | - | V |
| Collector-Base Breakdown Voltage | BV _{CBO} | I _C = -0.1mA, I _E = 0A | -20 | -50 | - | V |
| Emitter-Base Breakdown Voltage | BV _{EBO} | I _E = -0.1mA, I _C = 0A | -7 | - | - | V |
| Collector Cutoff Current | I _{CBO} | V _{CB} = -20V, I _E = 0A | - | - | -100 | nA |
| Emitter Cutoff Current | I _{EBO} | V _{EB} = -7V, I _C = 0A | - | - | -100 | nA |
| ON characteristics | | | | | | |
| DC Current Gain (Note1) | h _{FE} | V _{CE} = -2V I _C = -0.1mA | 200 | - | 500 | - |
| | | V _{CE} = -2V I _C = -0.5A | 200 | - | 500 | - |
| | | V _{CE} = -2V I _C = -1.6A | 100 | - | - | - |
| Collector-Emitter Saturation Voltage (Note1) | V _{CE(SAT)} | I _C = -0.5A, I _B = -50mA | - | - | -100 | mV |
| | | I _C = -1.6A, I _B = -53mA | - | - | -200 | |
| Base-Emitter Saturation voltage (Note1) | V _{BE(SAT)} | I _C = -0.5A, I _B = -50mA | - | - | -1.0 | V |
| | | I _C = -1.6A, I _B = -53mA | - | - | -1.1 | |
| Transition Frequency | f _T | V _{CE} = -2V I _E = 0.5A | - | 160 | - | MHz |
| Collector Output Capacitance | C _{OB} | V _{CB} = -10V I _E = 0A, f=1MHz | - | 40 | - | pF |

Note: 1. Pulse width ≤ 300us, Duty cycle ≤ 2%



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TYPICAL CHARACTERISTIC CURVES

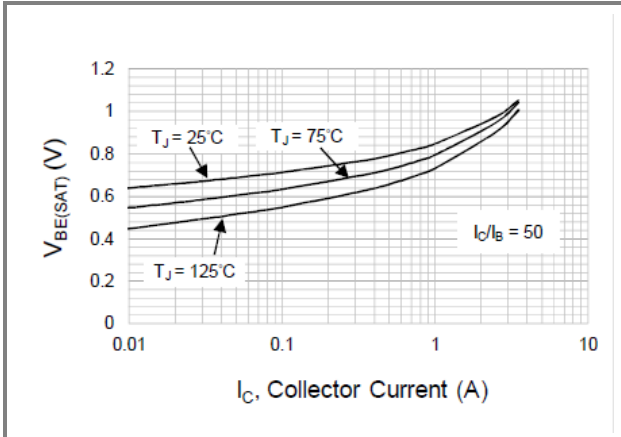


Fig.1 Typical Base-Emitter Saturation Voltage

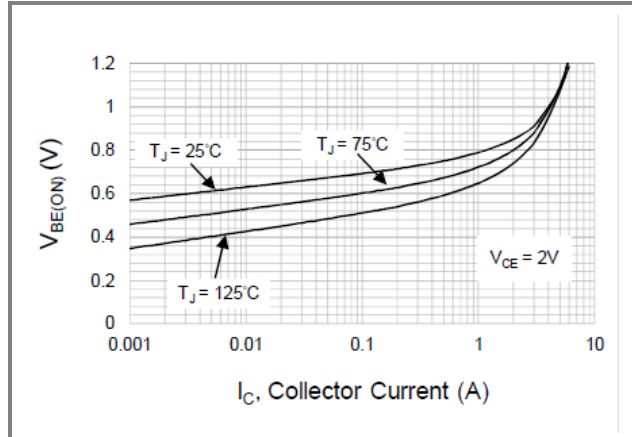


Fig.2 Typical Base-Emitter Saturation Voltage

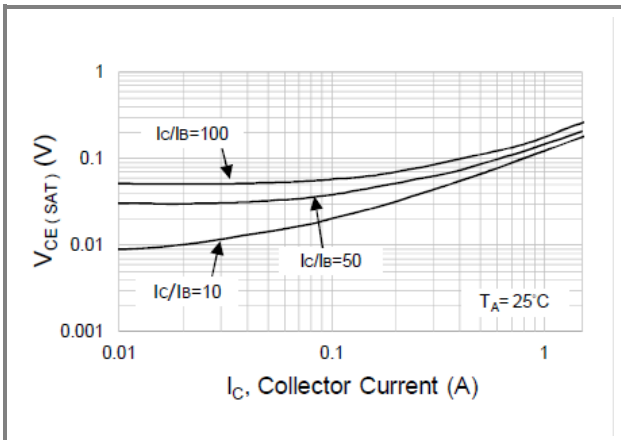


Fig.3 Typical Collector-Emitter Saturation

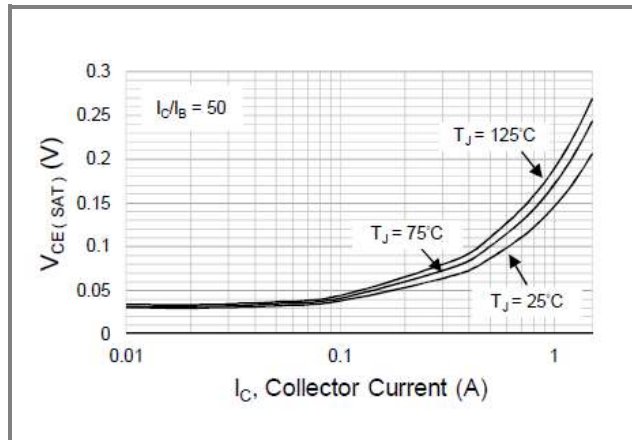


Fig.4 Typical Collector-Emitter Saturation

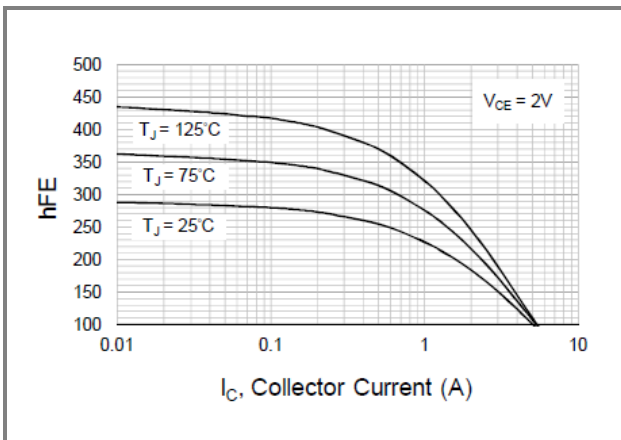


Fig.5 Typical DC Current Gain vs Collector Current

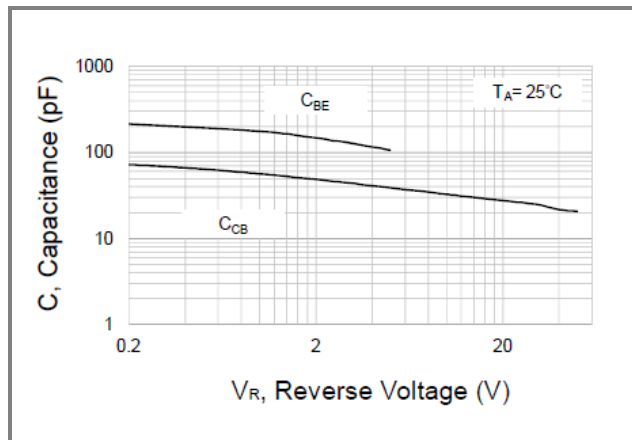


Fig.6 Typical Capacitance

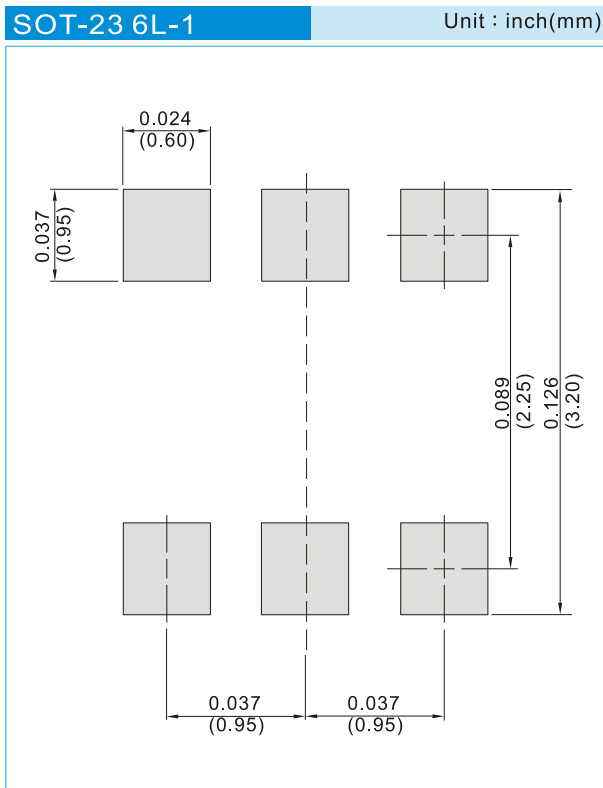


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PART NO. PACKING CODE VERSION

| Part No. Packing Code | Package Type | Packing Type | Marking | Version |
|-----------------------|--------------|------------------|---------|--------------------------------|
| 2SB1427W6_S1_00001 | SOT-23 6L-1 | 3K pcs / 7" reel | B27 | Halogen free RoHS compliant |

MOUNTING PAD LAYOUT





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