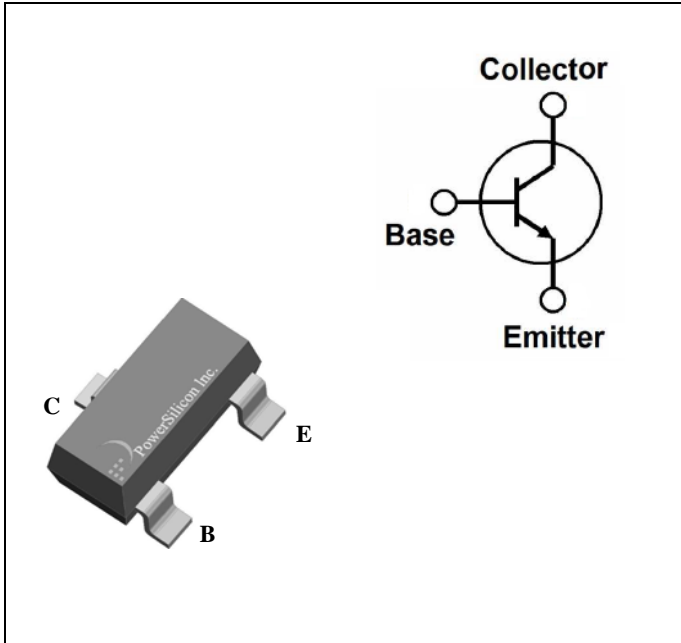


PLASTIC-ENCAPSULATE TRANSISTORS NPN Silicon



FEATURES

- Collector Current : $I_C = 0.5A$

MECHANICAL DATA

- Available in SOT-23 Package
- Solderability : MIL-STD-202, Method 208
- Full RoHS Compliance

ORDERING INFORMATION

| PART NUMBER | PACKAGE | SHIPPING | MARKING CODE |
|-------------|---------|-----------|--------------|
| S8050□-△-T3 | SOT-23 | Tape Reel | J3Y |

Notes:

- : none is for Lead Free package;
"G" is for Halogen Free package.
- △: Rank Of h_{FE} ; See Classification Of h_{FE}

THERMAL DATA

| PARAMETER | SYMBOL | VALUES | UNIT |
|---|-----------------|--------|------|
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 357 | °C/W |
| Thermal Resistance, Junction-to-Case | $R_{\theta JC}$ | 90 | °C/W |

Notes:

- $R_{\theta JA}$ is the sum of the junction-to-case and case-to-ambient thermal resistance where the case thermal reference is defined as the solder mounting surface of the drain pins. $R_{\theta JC}$ is guaranteed by design while $R_{\theta CA}$ is determined by the user's board design. The value of $R_{\theta JA}$ is measured with device mounted on 1 in² FR-4 board with 2 oz copper.

ABSOLUTE MAXIMUM RATINGS
 $T_A = 25^\circ\text{C}$, unless otherwise noted.

| PARAMETER | SYMBOL | VALUES | UNIT |
|------------------------------|-----------|------------|------------------|
| Collector-Emitter Voltage | V_{CEO} | 25 | V |
| Collector-Base Voltage | V_{CBO} | 40 | V |
| Emitter-Base Voltage | V_{EBO} | 5 | V |
| Collector Current-Continuous | I_C | 0.5 | A |
| Power Dissipation | P_C | 0.3 | W |
| Junction Temperature | T_J | 150 | $^\circ\text{C}$ |
| Storage Temperature | T_{stg} | -55 ~ +150 | $^\circ\text{C}$ |

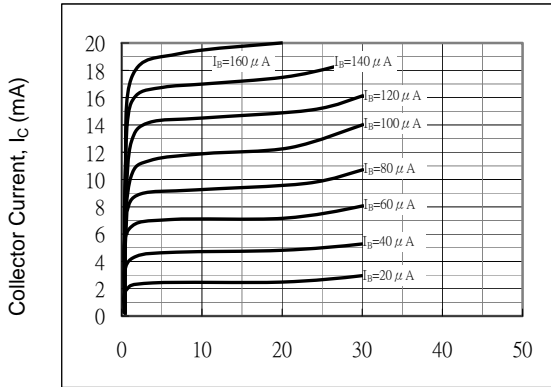
ELECTRICAL CHARACTERISTICS
 $T_A = 25^\circ\text{C}$, unless otherwise noted.

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|---|-----|-----|-----|---------------|
| OFF CHARACTERISTICS | | | | | | |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C = 1\text{mA}, I_B = 0$ | 25 | | | V |
| Collector-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C = 100\ \mu\text{A}, I_E = 0$ | 40 | | | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E = 100\ \mu\text{A}, I_C = 0$ | 5 | | | V |
| Emitter Cut-off Current | I_{EBO} | $V_{EB} = 5\text{V}, I_C = 0$ | | | 0.1 | μA |
| Collector Cut-off Current | I_{CBO} | $V_{CB} = 40\text{V}, I_E = 0$ | | | 0.1 | μA |
| Collector Cut-off Current | I_{CEO} | $V_{CE} = 20\text{V}, I_B = 0$ | | | 0.1 | μA |
| ON CHARACTERISTICS | | | | | | |
| DC Current Gain | $h_{FE(1)}$ | $V_{CE} = 1\text{V}, I_C = 50\text{mA}$ | 120 | | 350 | |
| | $h_{FE(2)}$ | $V_{CE} = 1\text{V}, I_C = 500\text{mA}$ | 50 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = 500\text{mA}, I_B = 50\text{mA}$ | | | 0.6 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C = 500\text{mA}, I_B = 50\text{mA}$ | | | 1.2 | V |
| SMALL-SIGNAL CHARACTERISTICS | | | | | | |
| Transition Frequency | f_T | $I_C = 20\text{mA}, V_{CE} = 6\text{V}, f = 30\text{MHz}$ | 150 | | | MHz |

CLASSIFICATION OF $h_{FE(1)}$

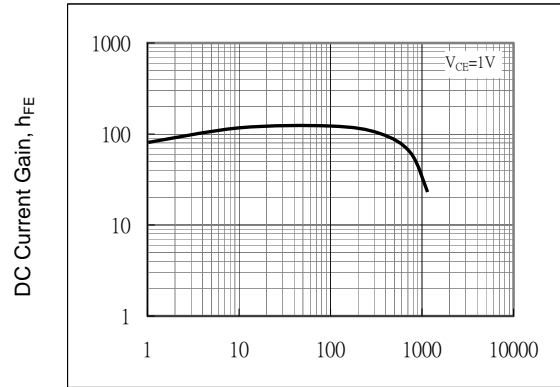
| RANK | L | H |
|-------------------|---------|---------|
| $h_{FE(1)}$ RANGE | 120~200 | 200~350 |

TYPICAL PERFORMANCE CHARACTERISTICS



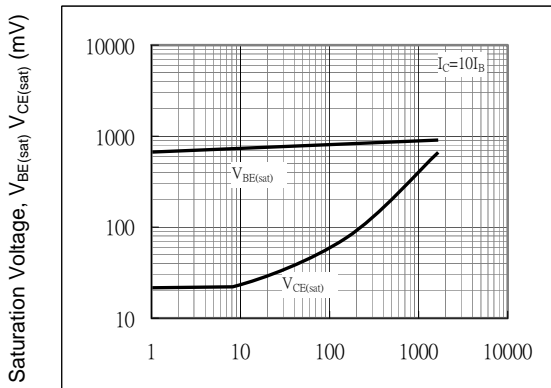
Collector-Emitter Voltage, V_{CE} (V)

Fig.- Static Characteristic



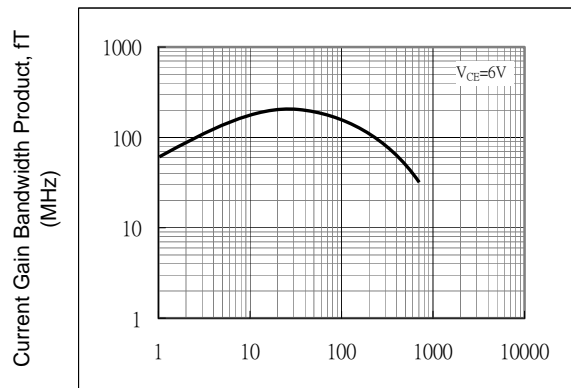
Collector Current, I_C (mA)

Fig.2 - DC Current Gain



Collector Current, I_C (mA)

Fig.3 - Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

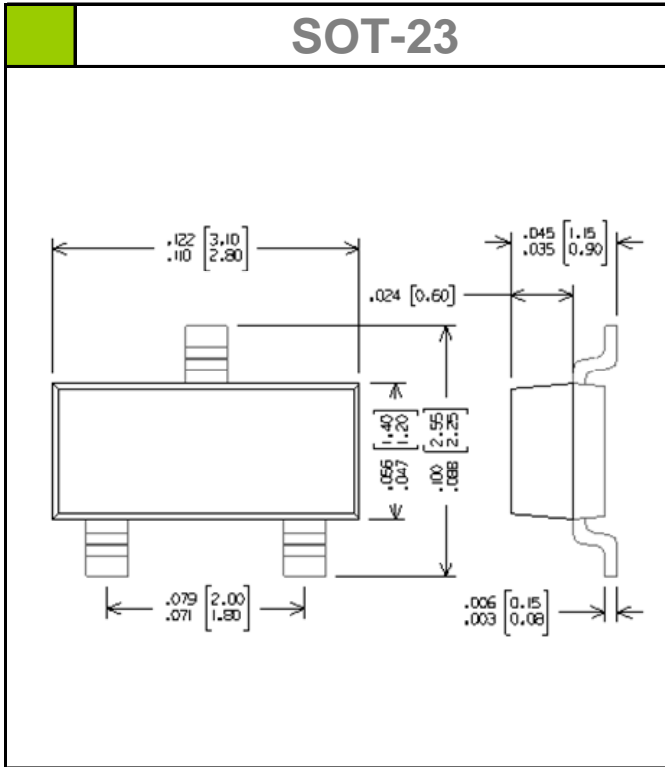


Collector Current, I_C (mA)

Fig.4 - Current Gain Bandwidth Product

PHYSICAL DIMENSION

Unit : Inch(Millimeter)



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [PowerSilicon Inc manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NJVMJD148T4G](#) [NTE123AP-10](#) [NTE153MCP](#) [NTE16](#)
[NTE195A](#) [NTE92](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC2712S-GR,LF](#) [SP000011176](#) [2N2907A](#) [2N3904-](#)
[NS](#) [2N5769](#) [2SC2412KT146S](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#) [MJE340](#) [Jantx2N5416](#) [US6T6TR](#) [NJL0281DG](#) [732314D](#) [CPH3121-TL-E](#)
[CPH6021-TL-H](#) [873787E](#) [IMZ2AT108](#) [MMST8098T146](#) [UMX21NTR](#) [MCH6102-TL-E](#) [NJL0302DG](#) [30A02MH-TL-E](#) [NTE13](#) [NTE26](#)
[NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [STX83003-AP](#) [JANTX2N2920L](#) [JANSR2N2222AUB](#) [CMLT3946EG TR](#) [2SA1371D-AE](#)