

| <b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted) |   |               |            |            |            |               |
|---|---|---------------|------------|------------|------------|---------------|
| <b>PARAMETER</b>  | <b>CONDITIONS</b>   | <b>SYMBOL</b> | <b>MIN</b> | <b>TYP</b> | <b>MAX</b> | <b>UNIT</b>   |
| Collector cutoff current, emitter open  | $V_{CB} = -45\text{ V}, I_E = 0$                                    | $I_{CBO}$     | -          | -          | -0.1       | $\mu\text{A}$ |
| Emitter cutoff current, collector open  | $V_{EB} = -4\text{ V}, I_C = 0$                                     | $I_{EBO}$     | -          | -          | -0.1       | $\mu\text{A}$ |
| DC current gain   | $V_{CE} = -1\text{ V},$<br>$I_C = -100\text{ mA}$                   | BC807-16      | 100        | -          | 250        |               |
|   |   | BC807-25      | 160        | -          | 400        |               |
|   |   | BC807-40      | 250        | -          | 600        |               |
| Collector-emitter saturation voltage  | $I_C = -500\text{ mA}, I_B = -50\text{ mA}$                         | $V_{CE(sat)}$ | -          | -          | -0.7       | V             |
| Base-emitter saturation voltage   | $I_C = -500\text{ mA}, I_B = -50\text{ mA}$                         | $V_{BE(sat)}$ | -          | -          | -1.2       | V             |
| Transition frequency  | $V_{CE} = -5\text{ V}, I_C = -10\text{ mA},$<br>$f = 50\text{ MHz}$ | $f_T$         | 100        | -          | -          | MHz           |

| <b>ORDERING INFORMATION</b>        |                |                |
|------------------------------------|----------------|----------------|
| <b>ORDERING CODE</b><br>(Note1, 2) | <b>PACKAGE</b> | <b>PACKING</b> |
| BC807-XX RF                        | SOT-23         | 3K / 7" Reel   |
| BC807-XX RFG                       | SOT-23         | 3K / 7" Reel   |

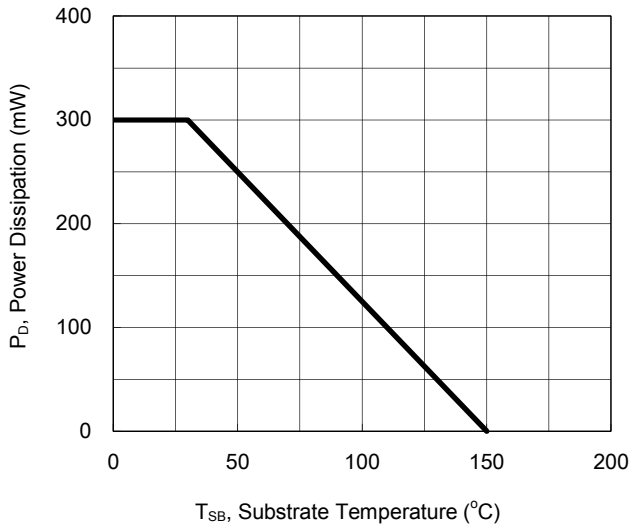
**Note:**

- "xx" is Device Code is "16" and "25" and "40"
- "G" means green compound (halogen free)

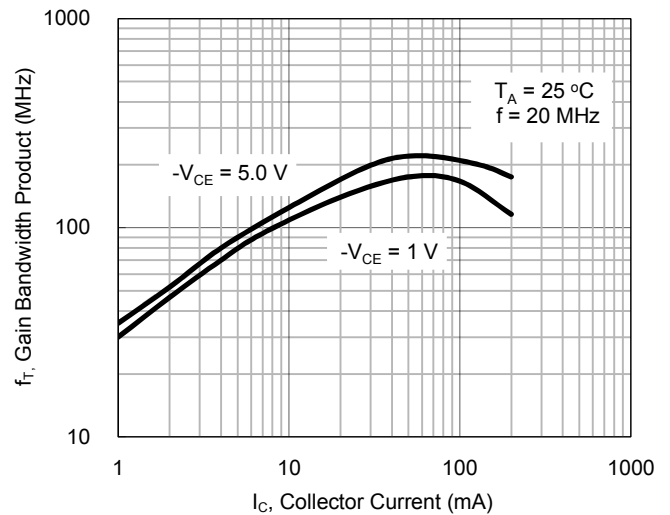
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

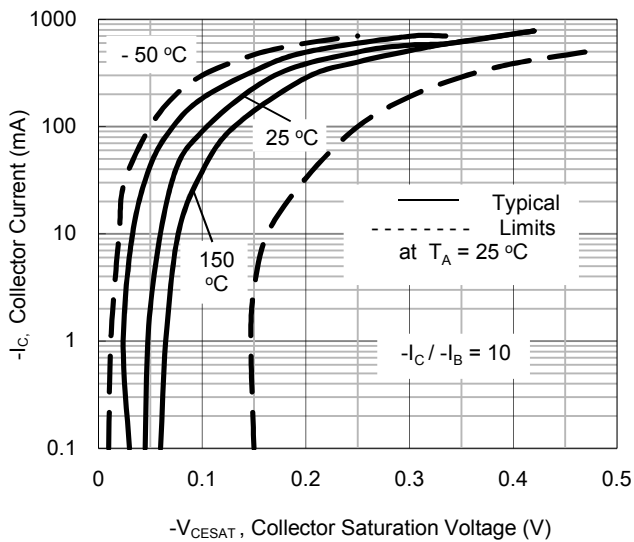
**Fig.1 Power Derating Curve**



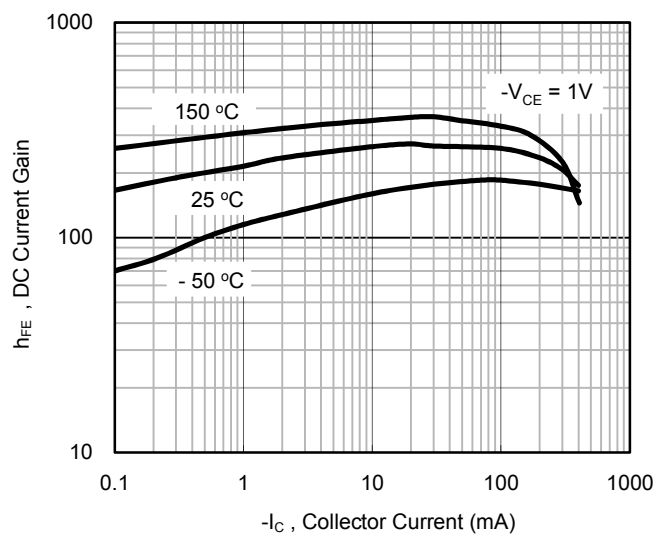
**Fig. 2 Gain Bandwidth Product VS. Collector Current**



**Fig.3 Collector Sat Voltage VS. Collector Current**



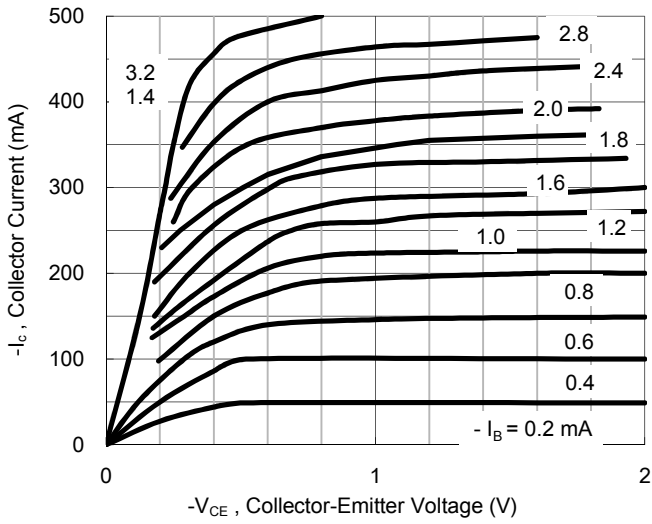
**Fig.4 DC Current Gain VS. Collector Current**



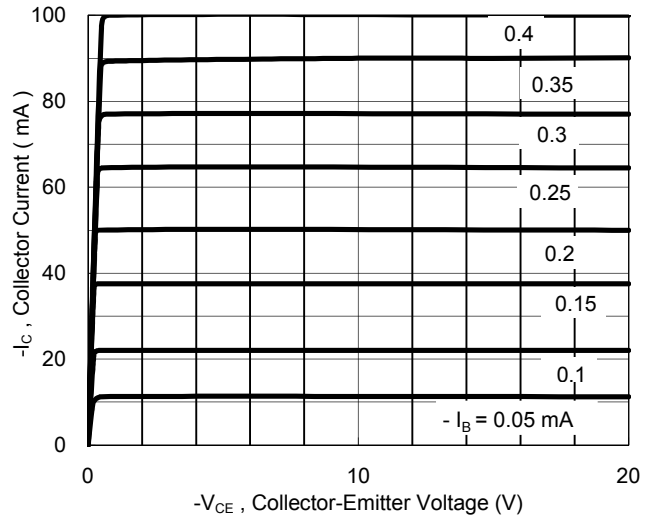
**CHARACTERISTICS CURVES**

( $T_A = 25^\circ\text{C}$  unless otherwise noted)

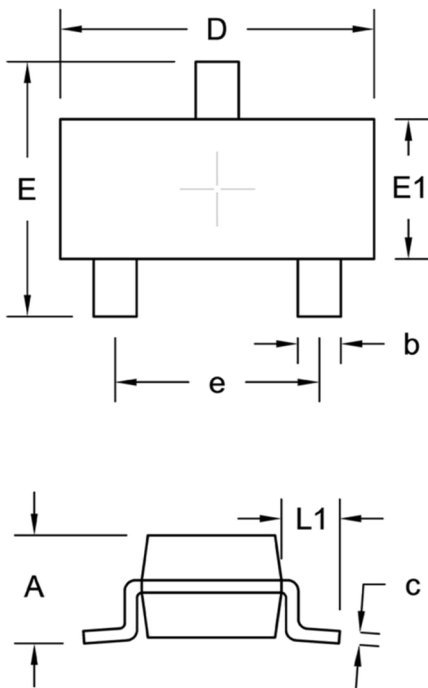
**Fig.5 Typical Emitter-Collector Characteristics**



**Fig. 6 Typical Transient Thermal Characteristics**

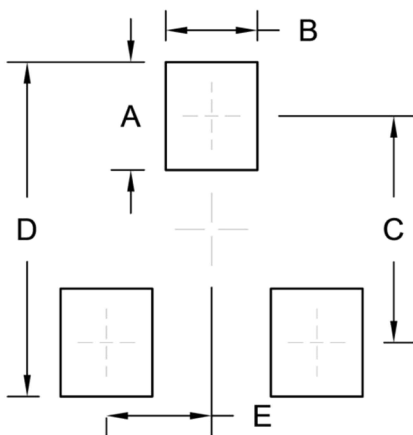


**PACKAGE OUTLINE DIMENSION**  
SOT-23



| DIM. | Unit (mm) |      | Unit (inch) |       |
|------|-----------|------|-------------|-------|
|      | Min.      | Max. | Min.        | Max.  |
| A    | 0.89      | 1.12 | 0.035       | 0.044 |
| b    | 0.30      | 0.50 | 0.012       | 0.020 |
| c    | 0.08      | 0.20 | 0.003       | 0.008 |
| D    | 2.80      | 3.04 | 0.110       | 0.120 |
| E    | 2.10      | 2.64 | 0.083       | 0.104 |
| E1   | 1.20      | 1.40 | 0.047       | 0.055 |
| e    | 1.90 BSC  |      | 0.075 BSC   |       |
| L1   | 0.54 REF. |      | 0.021 REF.  |       |

**SUGGESTED PAD LAYOUT**



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.00      | 0.039       |
| B      | 0.85      | 0.033       |
| C      | 2.10      | 0.083       |
| D      | 3.10      | 0.122       |
| E      | 0.98      | 0.039       |

## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Taiwan Semiconductor:](#)

[BC807-16](#) [BC807-25](#) [BC807-40](#) [BC807-25 RFG](#) [BC807-40 RF](#) [BC807-16 RFG](#) [BC807-16 RF](#) [BC807-40 RFG](#)