

BC807-25W, SBC807-25W, BC807-40W, SBC807-40W

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted.)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector–Emitter Breakdown Voltage (I _C = –10 mA)	V _{(BR)CEO}	–45	–	–	V
Collector–Emitter Breakdown Voltage (V _{EB} = 0, I _C = –10 μA)	V _{(BR)CES}	–50	–	–	V
Emitter–Base Breakdown Voltage (I _E = –1.0 μA)	V _{(BR)EBO}	–5.0	–	–	V
Collector Cutoff Current (V _{CB} = –20 V) (V _{CB} = –20 V, T _J = 150°C)	I _{CBO}	–	–	–100 –5.0	nA μA

ON CHARACTERISTICS

DC Current Gain (I _C = –100 mA, V _{CE} = –1.0 V) (I _C = –500 mA, V _{CE} = –1.0 V)	BC807–25, SBC807–25 BC807–40, SBC807–40 h _{FE}	160 250 40	– – –	400 600 –	–
Collector–Emitter Saturation Voltage (I _C = –500 mA, I _B = –50 mA)	V _{CE(sat)}	–	–	–0.7	V
Base–Emitter On Voltage (I _C = –500 mA, I _B = –1.0 V)	V _{BE(on)}	–	–	–1.2	V

SMALL-SIGNAL CHARACTERISTICS

Current–Gain – Bandwidth Product (I _C = –10 mA, V _{CE} = –5.0 Vdc, f = 100 MHz)	f _T	100	–	–	MHz
Output Capacitance (V _{CB} = –10 V, f = 1.0 MHz)	C _{obo}	–	10	–	pF

ORDERING INFORMATION

Device	Specific Marking	Package	Shipping [†]
BC807–25WT1G	5B	SC–70 (Pb–Free)	3000 / Tape & Reel
SBC807–25T1G			10,000 / Tape & Reel
BC807–25WT3G			
BC807–40WT1G	5C	SC–70 (Pb–Free)	3000 / Tape & Reel
SBC807–40WT1G			10,000 / Tape & Reel
BC807–40WT3G			

[†]For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

TYPICAL CHARACTERISTICS – BC807-25W, SBC807-25W

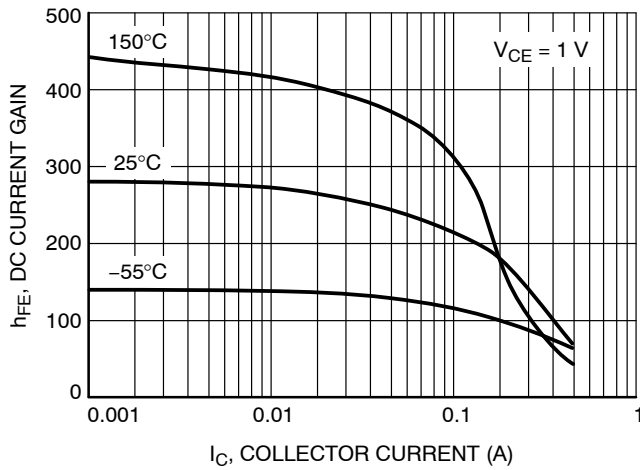


Figure 1. DC Current Gain vs. Collector Current

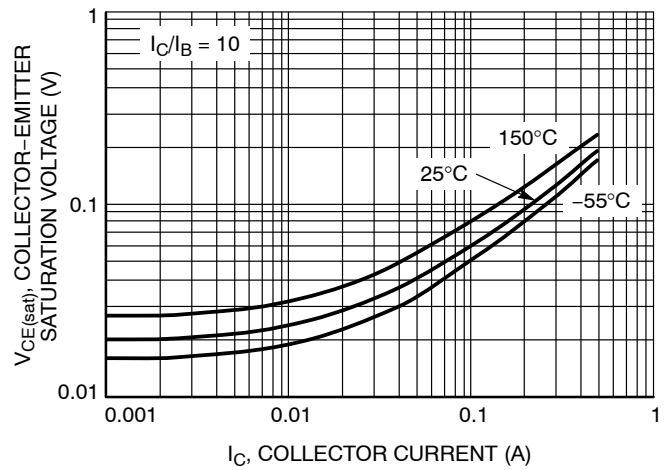


Figure 2. Collector Emitter Saturation Voltage vs. Collector Current

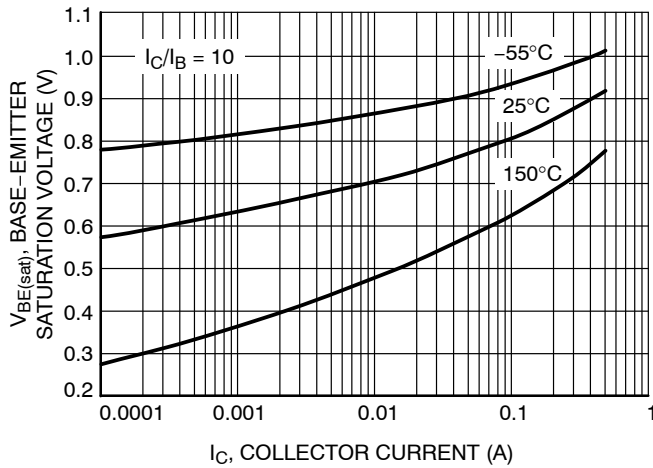


Figure 3. Base Emitter Saturation Voltage vs. Collector Current

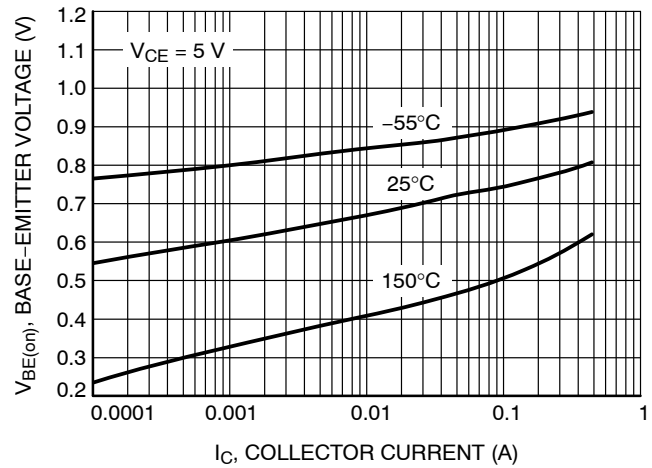


Figure 4. Base Emitter Voltage vs. Collector Current

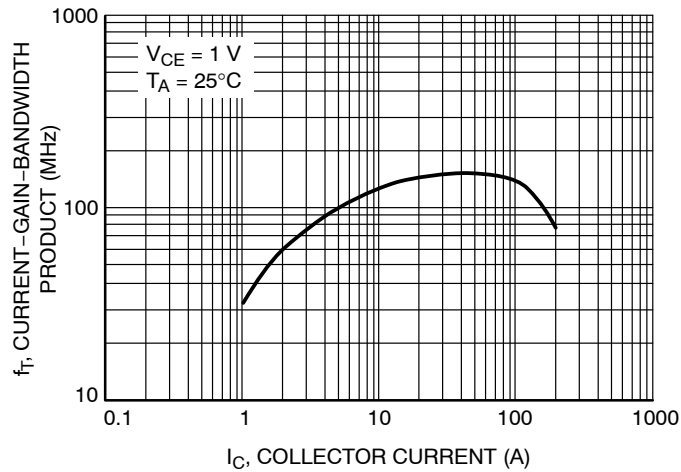


Figure 5. Current Gain Bandwidth Product vs. Collector Current

TYPICAL CHARACTERISTICS - BC807-25W, SBC807-25W

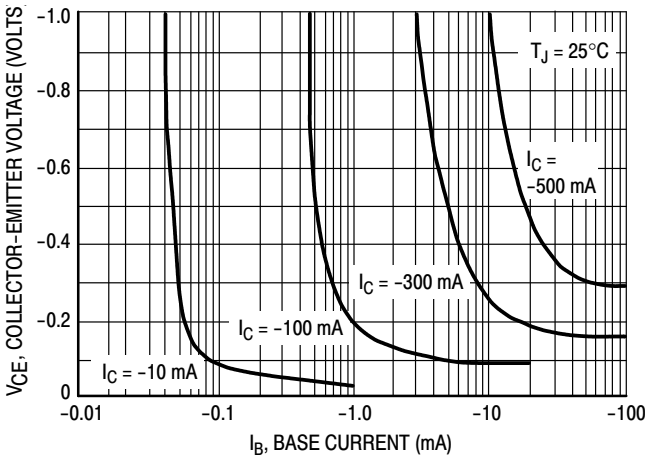


Figure 6. Saturation Region

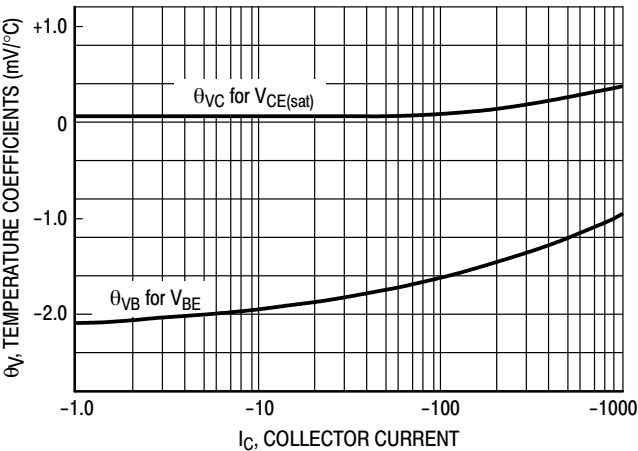


Figure 7. Temperature Coefficients

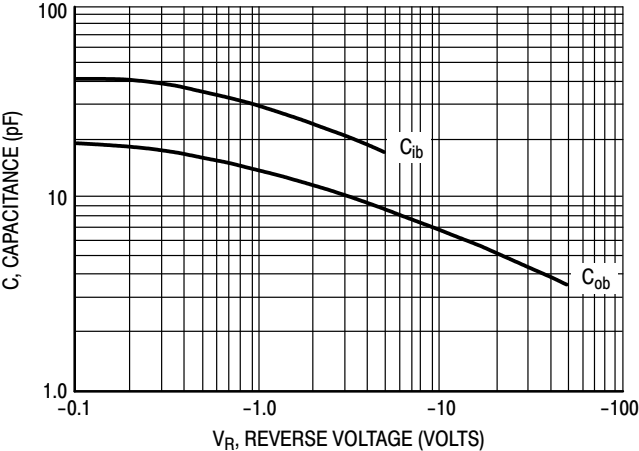


Figure 8. Capacitances

TYPICAL CHARACTERISTICS – BC807-40W, SBC807-40W

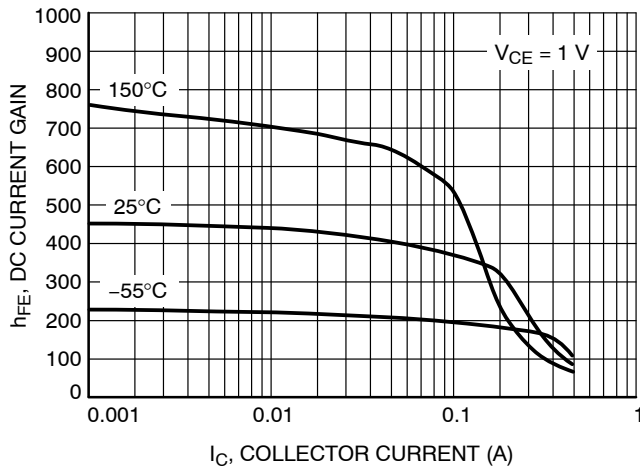


Figure 9. DC Current Gain vs. Collector Current

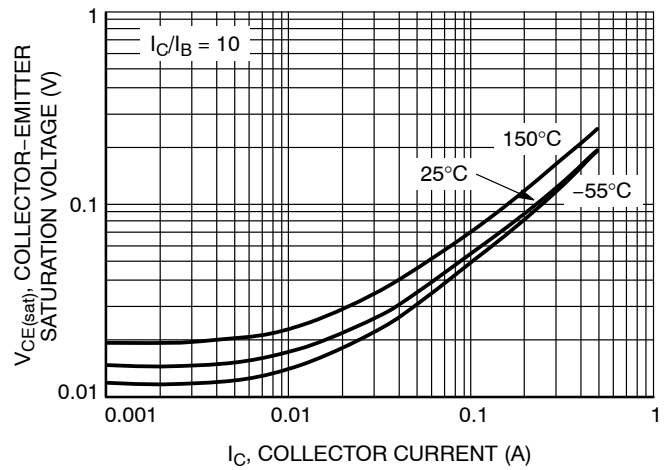


Figure 10. Collector Emitter Saturation Voltage vs. Collector Current

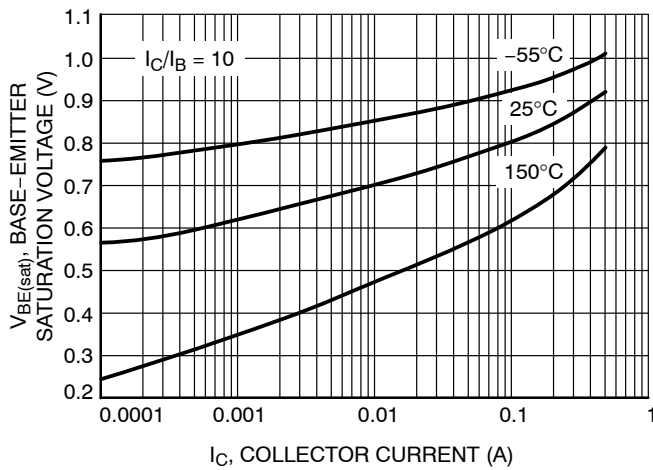


Figure 11. Base Emitter Saturation Voltage vs. Collector Current

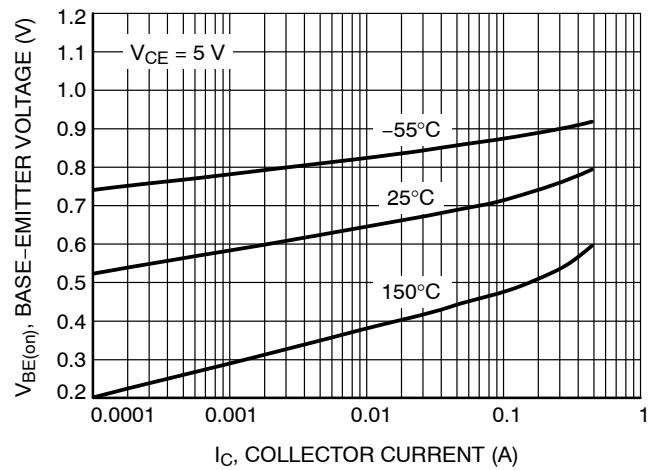


Figure 12. Base Emitter Voltage vs. Collector Current

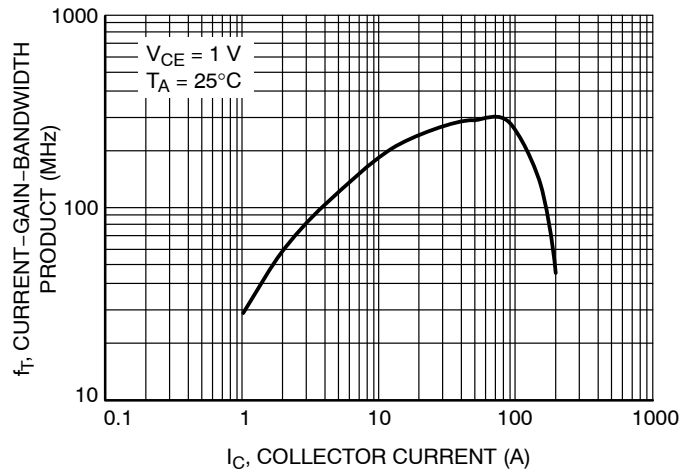


Figure 13. Current Gain Bandwidth Product vs. Collector Current

TYPICAL CHARACTERISTICS - BC807-40W, SBC807-40W

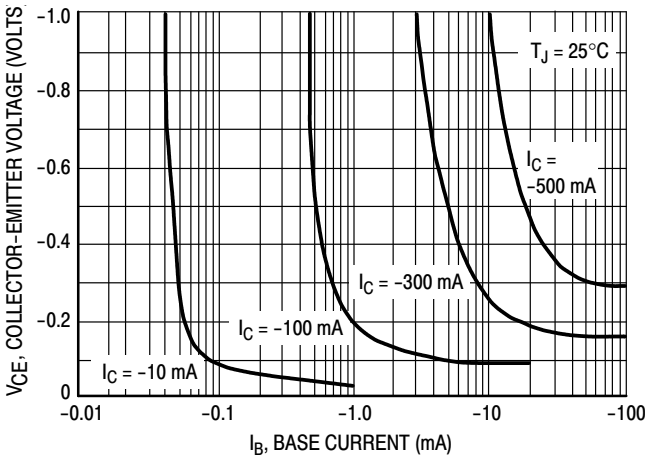


Figure 14. Saturation Region

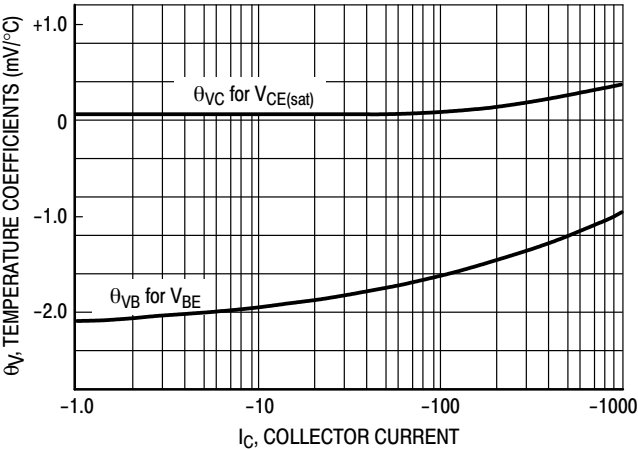


Figure 15. Temperature Coefficients

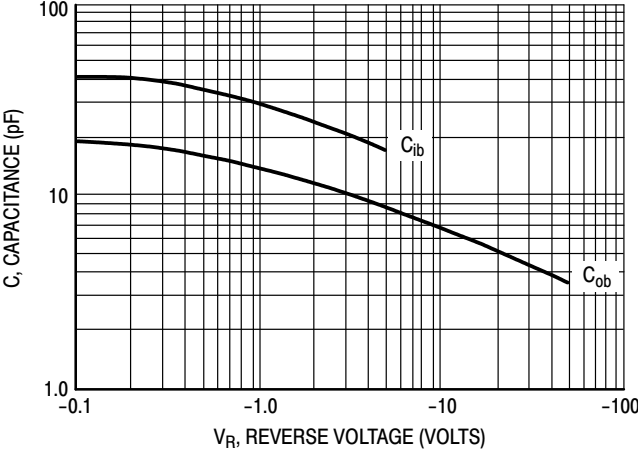


Figure 16. Capacitances

BC807-25W, SBC807-25W, BC807-40W, SBC807-40W

TYPICAL CHARACTERISTICS – BC807-25W, SBC807-25W, BC807-40W, SBC807-40W

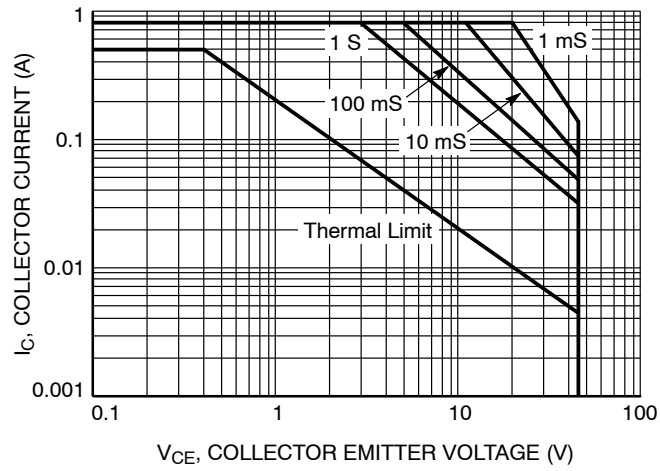


Figure 17. Safe Operating Area

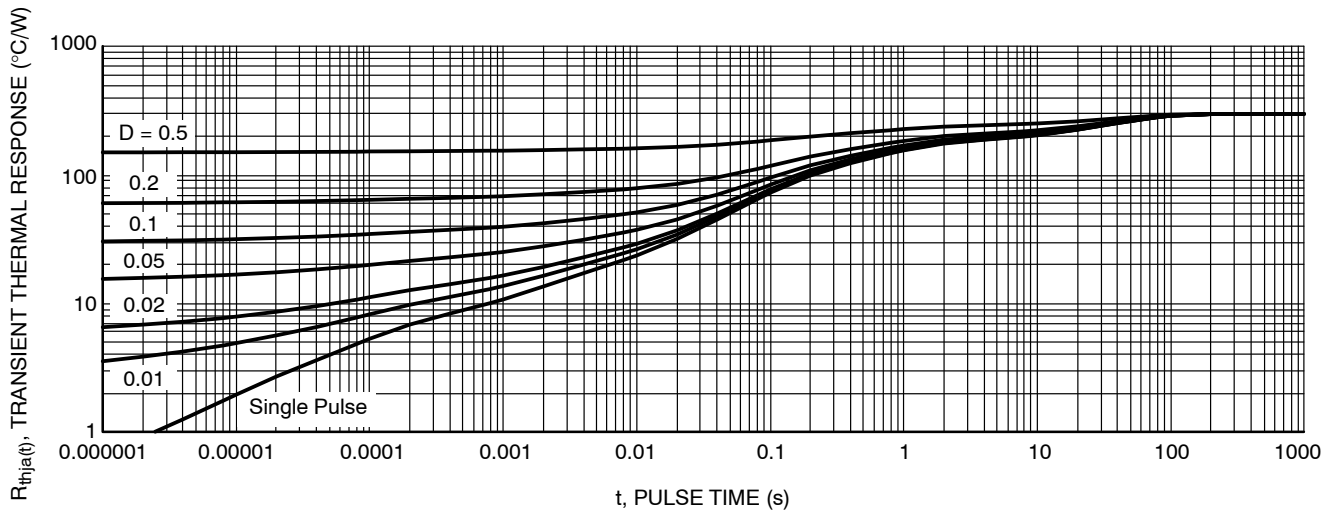


Figure 18. Thermal Response

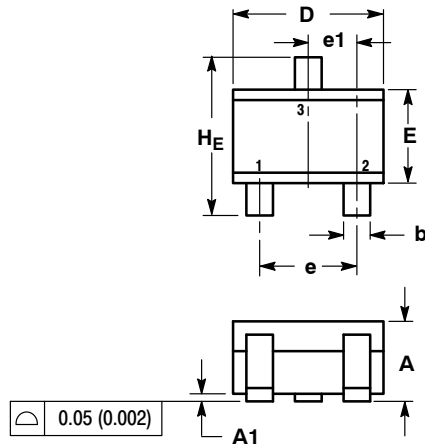
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PACKAGE DIMENSIONS

SC-70 (SOT-323)

CASE 419-04

ISSUE N



NOTES:

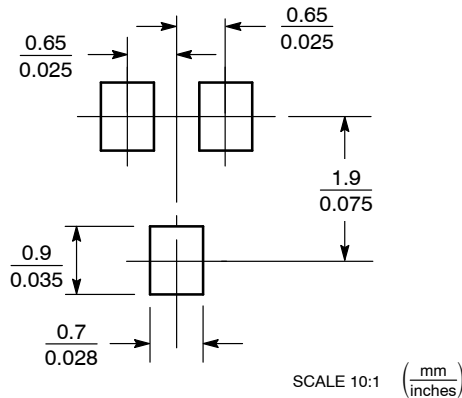
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70 REF			0.028 REF		
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1	0.65 BSC			0.026 BSC		
L	0.20	0.38	0.56	0.008	0.015	0.022
HE	2.00	2.10	2.40	0.079	0.083	0.095

STYLE 3:

- PIN 1. BASE
2. EMITTER
3. COLLECTOR

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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