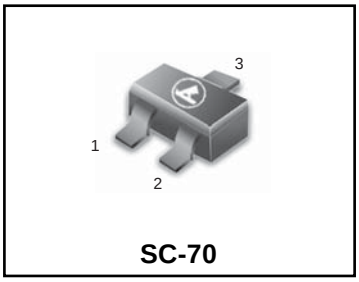
General Purpose Transistors
NPN Silicon

LBC817-25WT1G
S-LBC817-25WT1G



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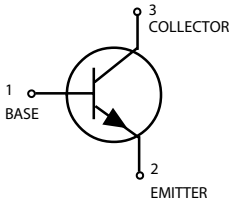
●FEATURES

1) We declare that the material of product compliant with RoHS requirements and Halogen Free.
2) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

●DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBC817-25WT1G	6B	3000/Tape&Reel
LBC817-25WT3G	6B	10000/Tape&Reel



●MAXIMUM RATINGS(Ta = 25℃)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	V_{CEO}	45	Vdc
Collector–Base Voltage	V_{CBO}	50	Vdc
Emitter–Base Voltage	V_{EBO}	5.0	Vdc
Collector Current — Continuous	I_C	500	mAdc

●THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Power Dissipation FR-5 Board,(Note 1.)@Ta = 25°C Derate above 25°C	P_D	150 1.2	mW °C/W
Thermal Resistance – Junction-to-Ambient	$R_{\theta JA}$	833	°C/W
Total Power Dissipation Alumina Substrate,(Note 2.)@Ta = 25°C Derate above 25°C	P_D	200 1.6	mW °C/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	625	°C/W
Junction and Storage Temperature Range	T_J, Tstg	–55 to +150	°C

1. FR–5 = 1.0 x 0.75 x 0.062 in.
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

LBC817-25WT1G,S-LBC817-25WT1G

●ELECTRICAL CHARACTERISTICS (Ta= 25℃)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (I_C = 10 mAdc, I_B = 0)	$V_{BR(CEO)}$	45	–	–	V
Collector–Emitter Breakdown Voltage (I_C = 10 μAdc,V_{EB} = 0)	$V_{BR(CES)}$	50	–	–	V
Emitter–Base Breakdown Voltage (I_E = 1 μAdc, I_C = 0)	$V_{BR(EBO)}$	5	–	–	V
Collector Cutoff Current (V_{CB} = 20 Vdc) (V_{CB} = 20 Vdc, T_A = 150°C)	I_{CBO}	– –	– –	100 5	nA μA
DC Current Gain (I_C = 100 mAdc, V_{CE} = 1 Vdc)	h_{FE}	160	–	400	
Collector–Emitter Saturation Voltage (I_C = 500mAdc, I_B = 50 mAdc)	$V_{CE(sat)}$	–	–	0.7	V
Base–Emitter On Voltage (I_C = 500mAdc, V_{CE} = 1 mAdc)	$V_{BE(on)}$	–	–	1.2	V
Current–Gain — Bandwidth Product (I_C = 10mAdc, V_{CE}= 5Vdc, f = 100MHz)	f_T	100	–	–	MHz
Output Capacitance (V_{CB} = 10 Vdc, I_E = 0, f = 1.0 MHz)	C_{ob}	–	10	–	pF

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ELRCTRICAL CHARACTERISTICS CURVES

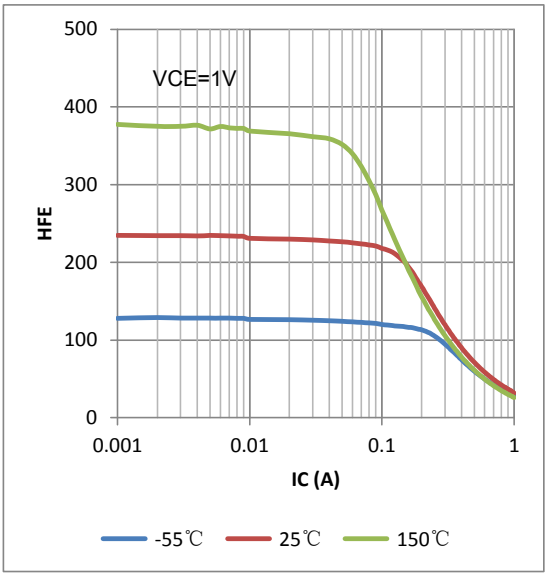

FIG.1 DC Current Gain

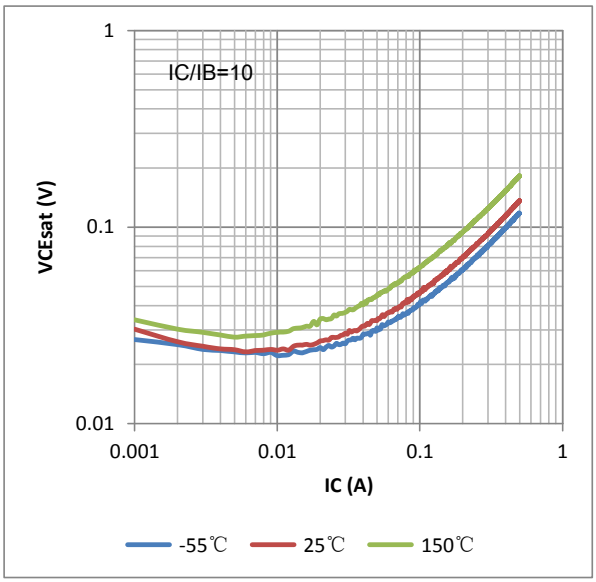

FIG.2 Collector Emitter Saturation Voltage vs. Collector Current

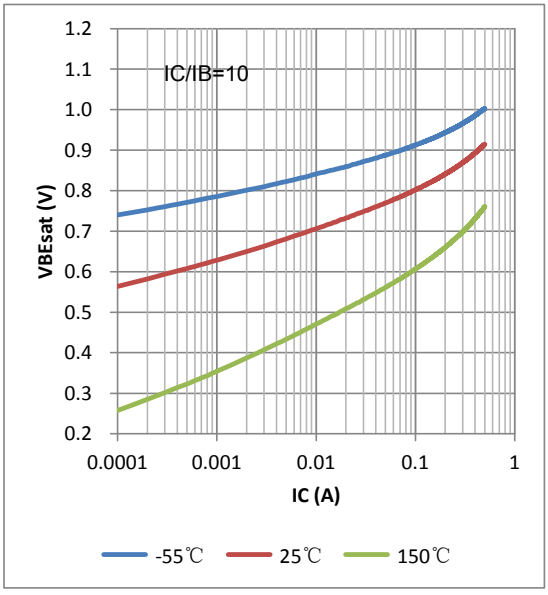

FIG.3 Base Emitter Saturation Voltage vs. Collector Current

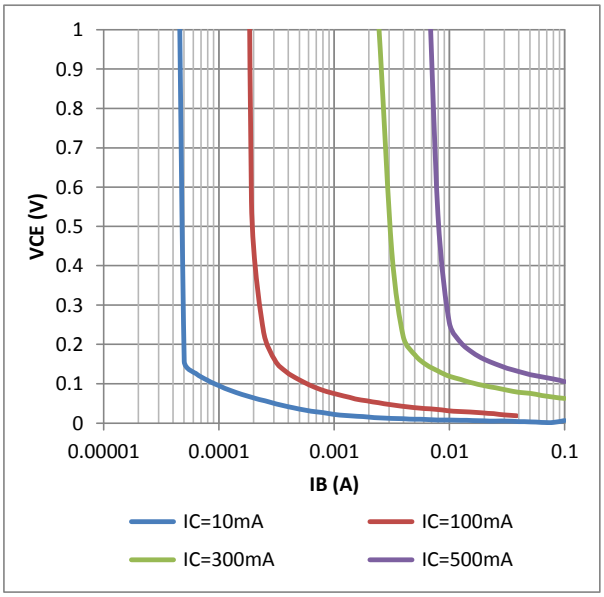

FIG.4 Saturation Region

LBC817-25WT1G,S-LBC817-25WT1G

ELRCTRICAL CHARACTERISTICS CURVES

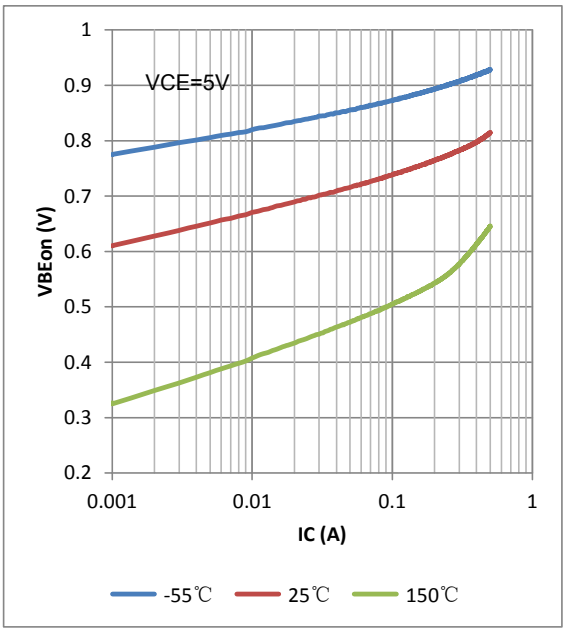

FIG.5 Base Emitter Saturation Voltage vs. Collector Current

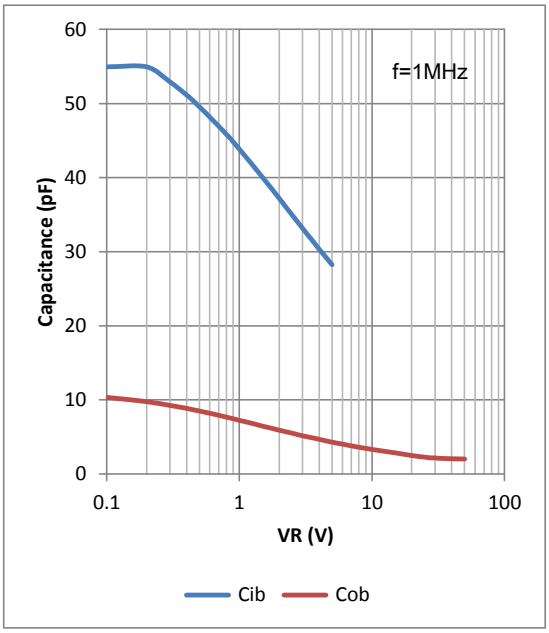

FIG.6 Capacitance

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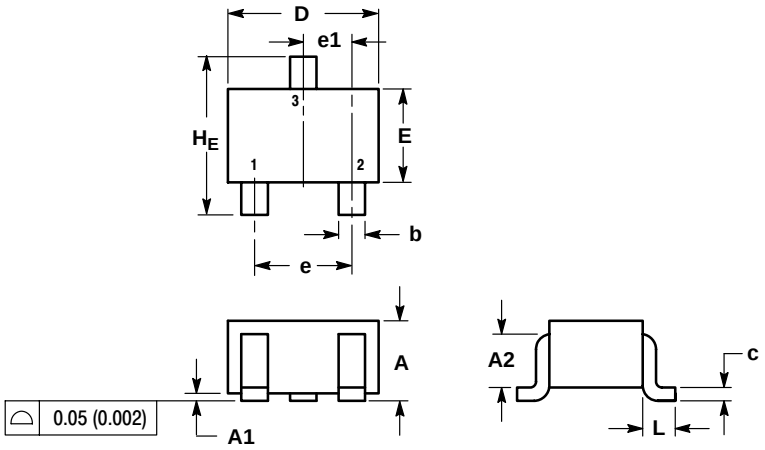
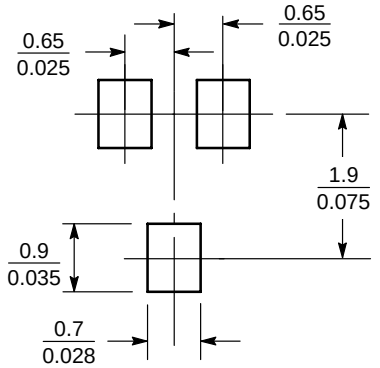


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

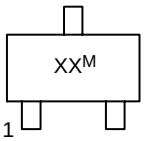
	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2		0.7 REF			0.028 REF	
b	0.30	0.35	0.40	0.012	0.014	0.016
c	0.10	0.18	0.25	0.004	0.007	0.010
D	1.80	2.10	2.20	0.071	0.083	0.087
E	1.15	1.24	1.35	0.045	0.049	0.053
e	1.20	1.30	1.40	0.047	0.051	0.055
e1		0.65 BSC			0.026 BSC	
L		0.425 REF			0.017 REF	
H_E	2.00	2.10	2.40	0.079	0.083	0.095

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{mm}{inches}\right)$

GENERIC MARKING DIAGRAM



XX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present.