

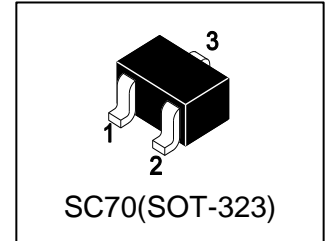
# LBC848BWT1G

## S-LBC848BWT1G

NPN Silicon General Purpose Transistors

### 1. FEATURES

- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

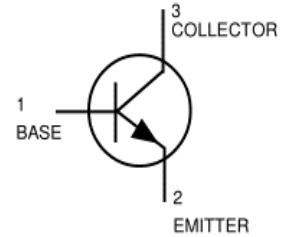


### 2. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBC848BWT1G	1K	3000/Tape&Reel

### 3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	30	Vdc
Collector–Base Voltage	VCBO	30	Vdc
Emitter–Base Voltage	VEBO	5	Vdc
Collector Current(Continuous)	IC	100	mAdc



### 4. THERMAL CHARACTERISTICS

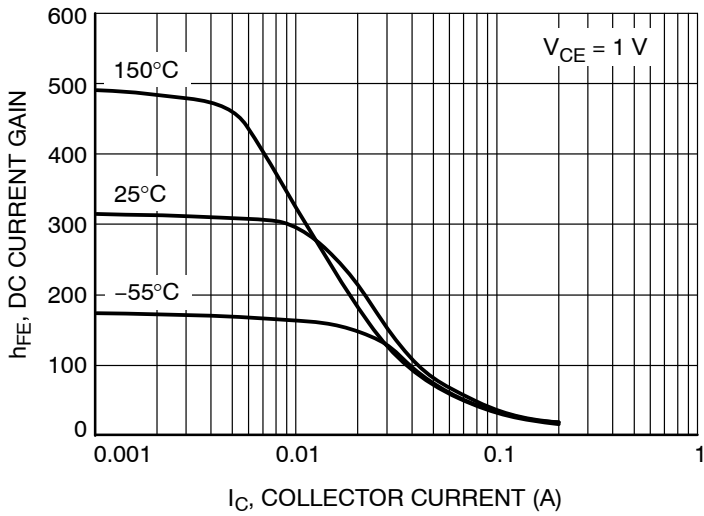
Parameter	Symbol	Limits	Unit
Total Device Dissipation	PD	150	mW
Thermal Resistance, Junction to Ambient	RθJA	833	°C/W
Junction temperature	TJ	-55 ~ +150	°C
Storage temperature	Tstg	-55 ~ +150	°C

**5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)**

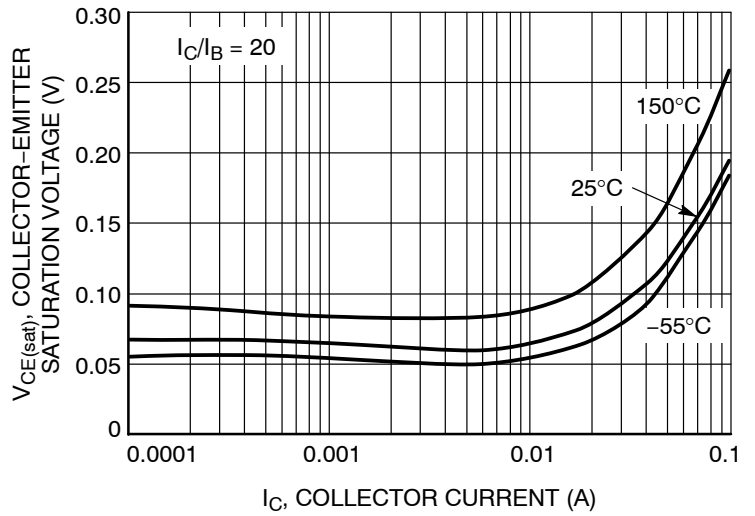
Characteristic	Symbol	Min.	Typ.	Max.	Unit
<b>OFF CHARACTERISTICS</b>					
Collector–Emitter Breakdown Voltage (IC = 10 mA)	V(BR)CEO	30	-	-	V
Collector–Emitter Breakdown Voltage (IC = 10 μA, VEB = 0)	V(BR)CES	30	-	-	V
Collector–Base Breakdown Voltage (IC = 10 μA)	V(BR)CBO	30	-	-	V
Emitter–Base Breakdown Voltage (IE = 1.0 μA)	V(BR)EBO	5	-	-	V
Collector Cutoff Current (VCB = 30 V) (VCB = 30 V, TA = 150°C)	ICBO	- -	- -	15 5	nA μA
<b>ON CHARACTERISTICS</b>					
DC Current Gain (IC = 2.0 mA, VCE = 5.0 V)	hFE	200	290	450	
Collector–Emitter Saturation Voltage (IC = 10 mA, IB = 0.5 mA) (IC = 100 mA, IB = 5.0 mA)	VCE(sat)	- -	- -	0.25 0.6	V
Base–Emitter Saturation Voltage (IC = 10 mA, IB = 0.5 mA) (IC = 100 mA, IB = 5.0 mA)	VBE(sat)	- -	0.7 0.9	- -	V
Base–Emitter Voltage (IC = 2.0 mA, VCE = 5.0 V) (IC = 10 mA, VCE = 5.0 V)	VBE(on)	580 -	660 -	700 770	mV
<b>SMALL–SIGNAL CHARACTERISTICS</b>					
Current–Gain — Bandwidth Product (IC = 10 mA, VCE = 5.0 Vdc, f = 100 MHz)	fT	100	-	-	MHz
Output Capacitance (VCB = 10 V, f = 1.0 MHz)	Cobo	-	-	4.5	pF
Noise Figure(IC = 0.2 mA, VCE = 5.0 V dc , RS = 2.0 kΩ, f = 1.0 KHz, BW = 200 Hz)	NF	-	-	10	dB

1.FR–5=1.0 x 0.75 x 0.062in

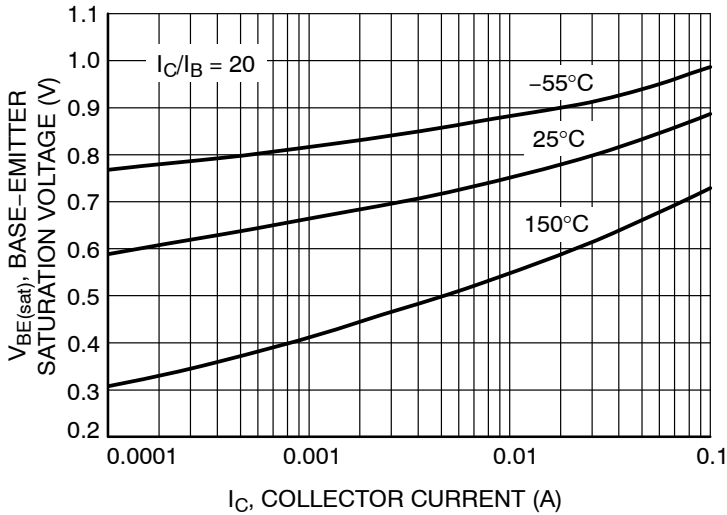
**6.ELECTRICAL CHARACTERISTICS CURVES**



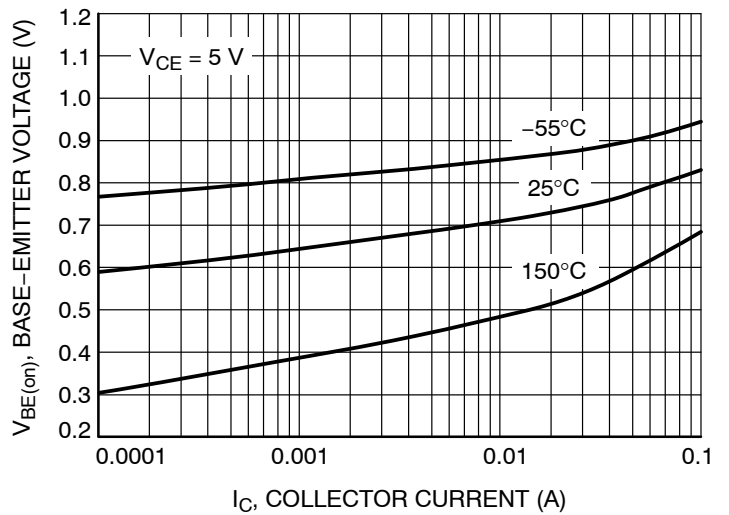
**DC Current Gain vs. Collector Current**



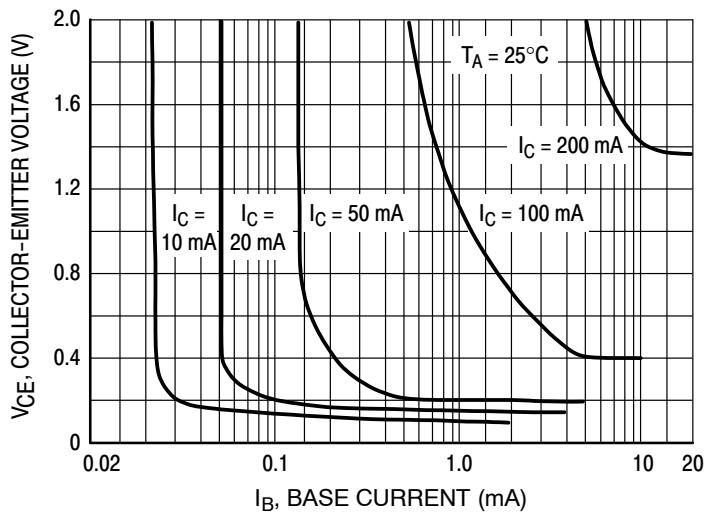
**Collector Emitter Saturation Voltage vs. Collector Current**



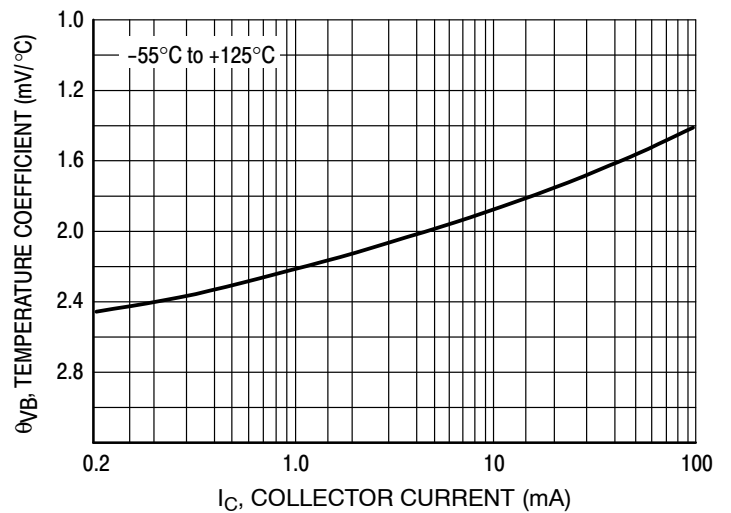
**Base Emitter Saturation Voltage vs. Collector Current**



**Base Emitter Voltage vs. Collector Current**

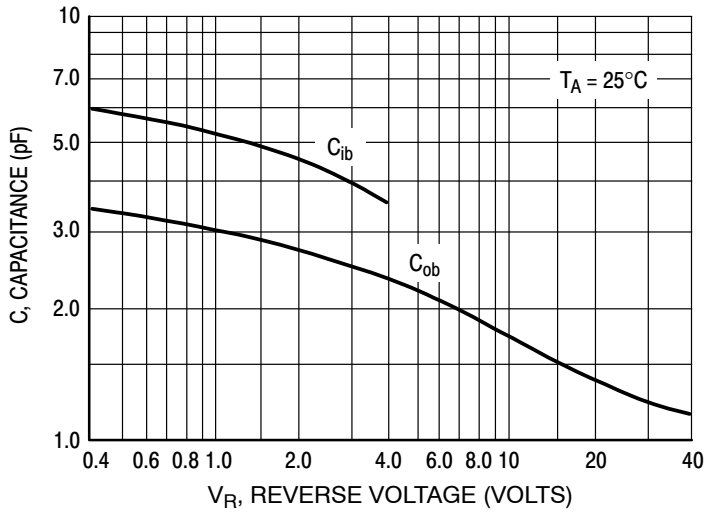


**Collector Saturation Region**

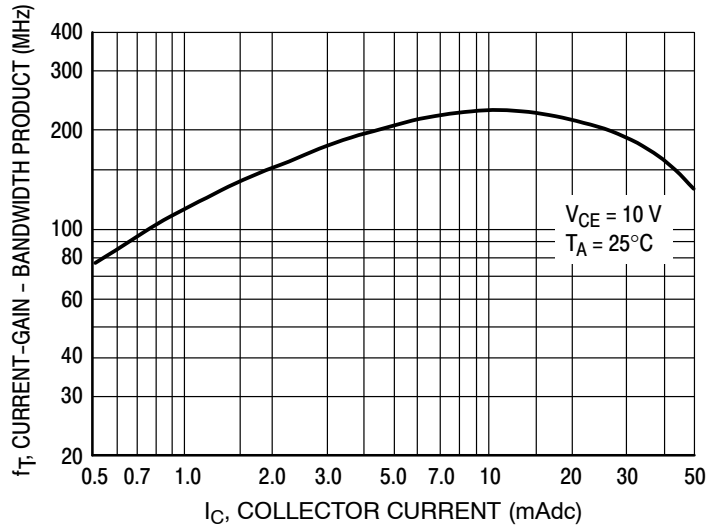


**Base -Emitter Temperature Coefficient**

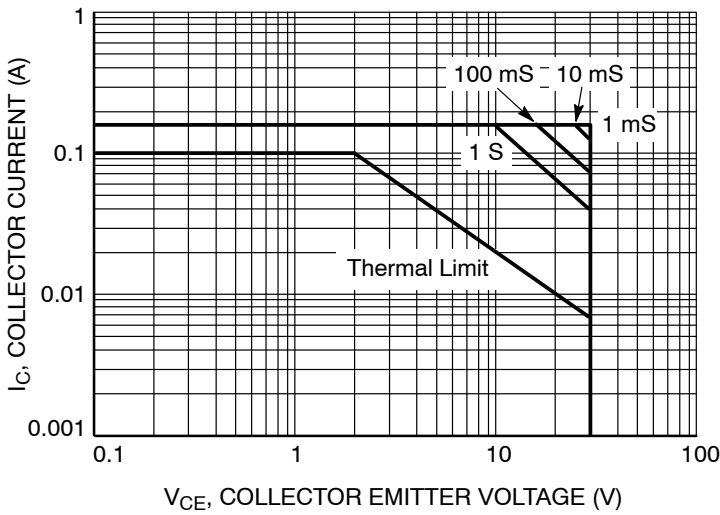
**6.ELECTRICAL CHARACTERISTICS CURVES(Con.)**



**Capacitances**



**Current -Gain - Bandwidth Product**

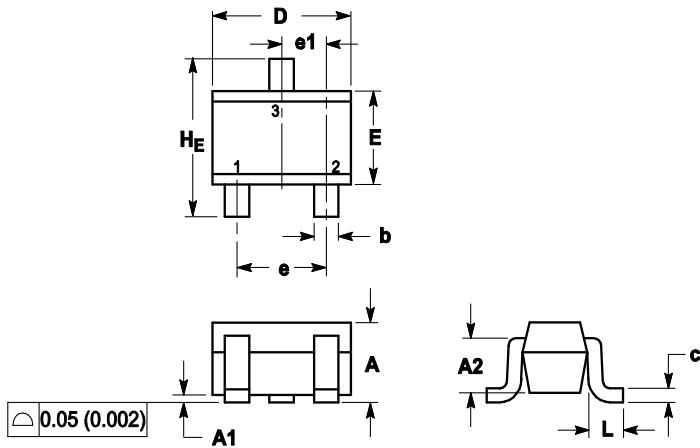


**Safe Operating Area**

## 7. OUTLINE AND DIMENSIONS

Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.



DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.039
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.70REF			0.028REF		
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	0.65REF			0.026REF		
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

## 8. SOLDERING FOOTPRINT

