

LBSS4240LT1G

S-LBSS4240LT1G

General Purpose Transistors NPN Silicon

1. FEATURES

- Low collector-emitter saturation voltage
- High current capability
- Improved device reliability due to reduced heat generation
- 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. APPLICATIONS

- Supply line switching circuits
- Battery management applications
- DC/DC converter applications
- Strobe flash units
- Heavy duty battery powered equipment (motor and lamp drivers).

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LBSS4240LT1G	ZE	3000/Tape&Reel
LBSS4240LT3G	ZE	10000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C)

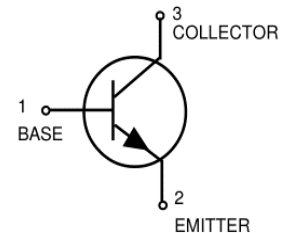
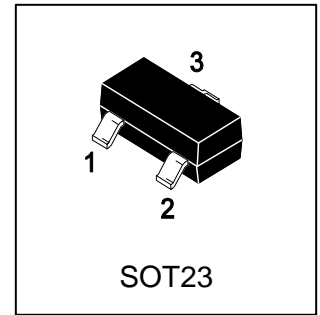
Parameter	Symbol	Limits	Unit
Collector-Emitter Voltage	VCEO	40	V
Collector-Base voltage	VCBO	40	V
Emitter-Base Voltage	VEBO	5	V
Collector current-continuoun	IC	2	A
Peak collector current(tp < 1 ms)	ICM	6	A
Total power dissipation	PD	0.3	W
Junction temperature	TJ	-55~+150	°C
Storage temperature	TSTG	-55~+150	°C

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Value	Unit
Thermal resistance from junction to ambient in free air	(Note 1)	RθJA	417	°C/W
	(Note 2)		260	°C/W
Thermal resistance from junction to case(Note 1)		RθJC	150	°C/W

1.30.0mm×25.0mm×1.6mm(FR4),Thickness of copper film:35um

2.Device mounted on a printed-circuit board,single sided copper,tinplated and mounted pad for collector 1 cm².

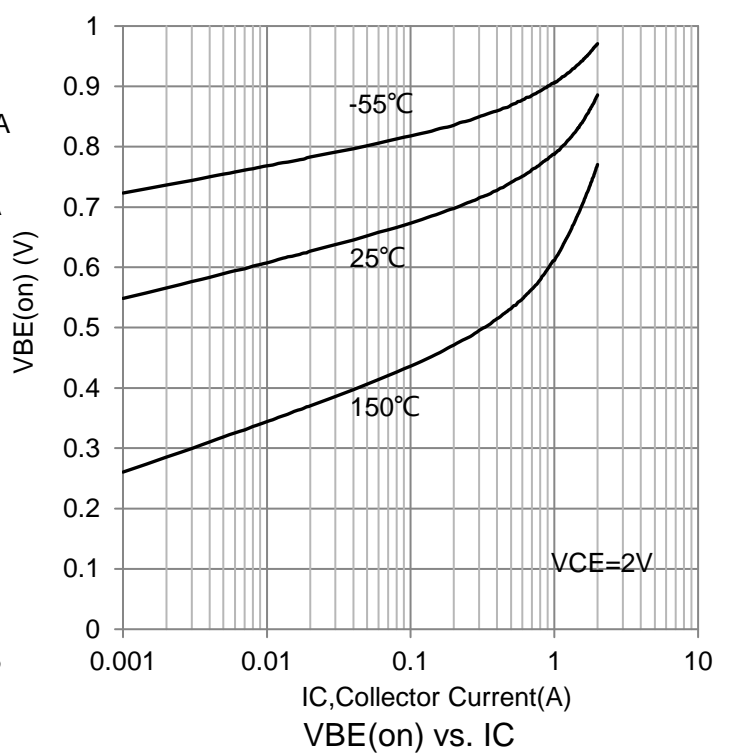
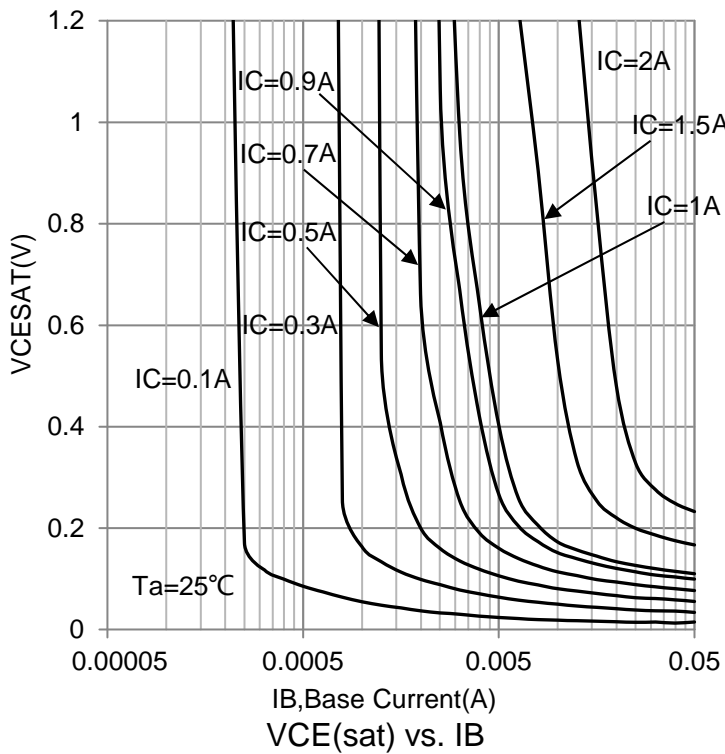
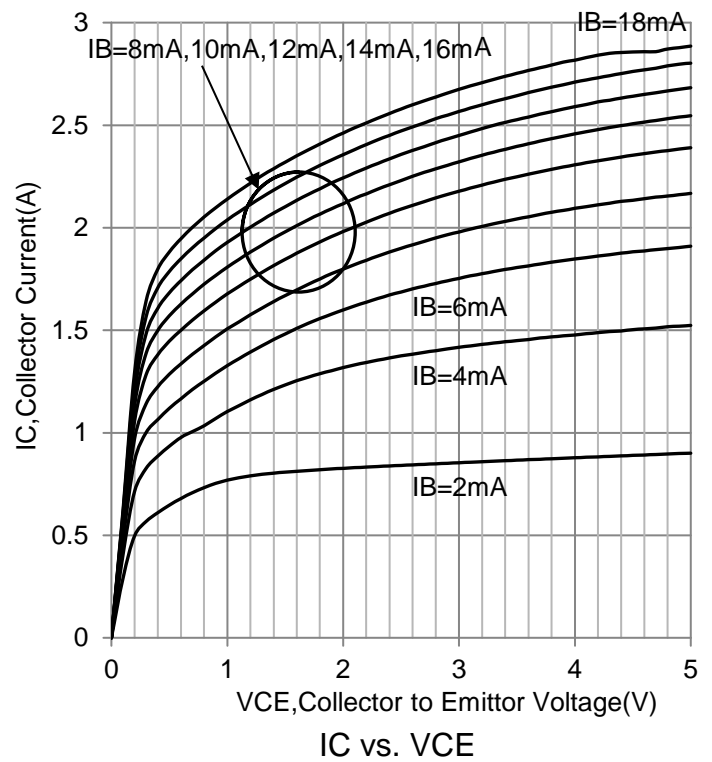
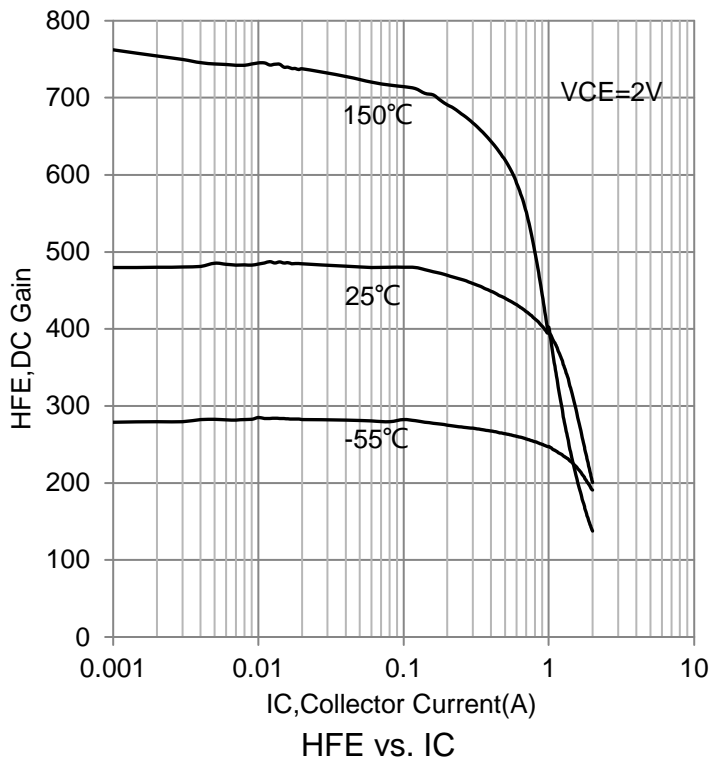


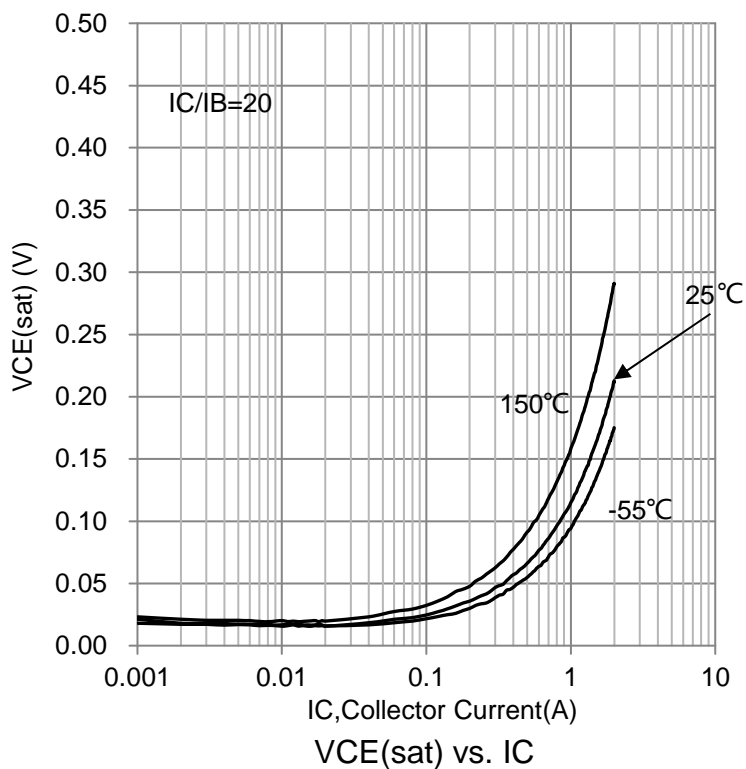
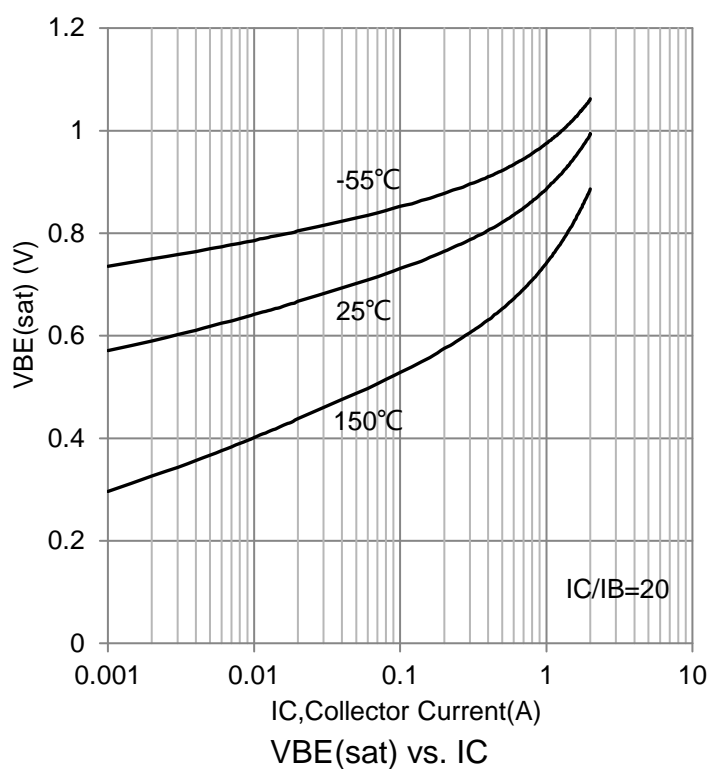
6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC= 10mA,IB= 0A)	VBR(CEO)	40	-	-	V
Collector–Base Breakdown Voltage (IC= 100μA,IE= 0A)	VBR(CBO)	40	-	-	V
Emitter–Base Breakdown Voltage (IE= 100μA,IC= 0A)	VBR(EBO)	5	-	-	V
Collector-Emitter cutoff Current (IB=0, VCE = 40V)	ICEO	-	-	1	μA
Collector-Base cut-off current (IE = 0, VCB = 30 V)	ICBO	-	-	100	nA
Emitter-Base cut-off current (IC = 0, VEB = 4 V)	IEBO	-	-	100	nA
DC current gain (IC = 100 mA, VCE = 2 V) (IC = 500 mA, VCE = 2 V) (IC = 1 A, VCE = 2 V) (IC = 2 A, VCE = 2 V)	hFE	350 300 300 150	- - - -	- - - -	
Collector-Emitter saturation voltage (IC = 100 mA, IB = 1 mA) (IC = 500 mA, IB = 50 mA) (IC = 750 mA, IB = 15 mA) (IC = 1 A, IB = 50 mA)(Note 3) (IC = 2 A, IB = 200 mA)(Note 3)	VCE(sat)	- - - - -	- - - - -	70 100 180 180 320	mV
Base-Emitter saturation voltage (IC = 2 A,IB = 200 mA)(Note 3) (IC = 2 A,IB = 50 mA)(Note 3)	VBE(sat)	- -	- -	1.1 1.1	V
Base-Emitter turn on voltage (IC = 100 mA,VCE = 2 V)	VBE(on)	-	-	0.75	V
Collector capacitance (IE = Ie = 0,VCB = 10 V,f = 1 MHz)	Cc	-	-	20	pF
Transition frequency (IC = 100 mA,VCE = 10 V, f = 100 MHz)	fT	100	-	-	MHz

3.Pulse test: $t_p \leq 300 \mu s$, $\delta \leq 0.02$.

7. ELECTRICAL CHARACTERISTICS CURVES(Ta= 25°C)

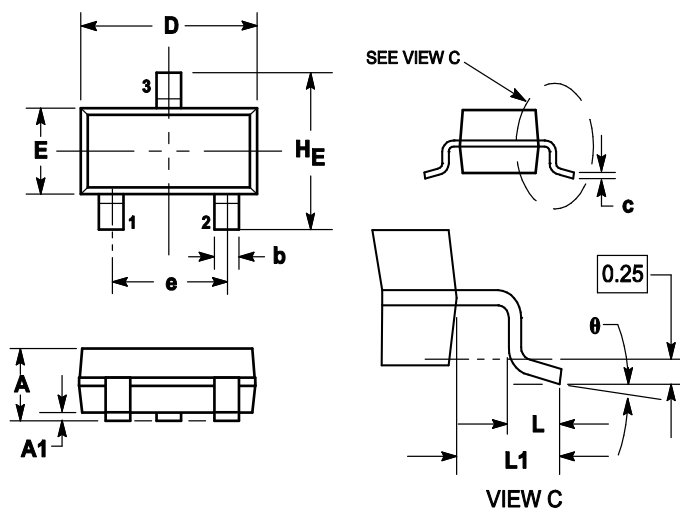


7. ELECTRICAL CHARACTERISTICS CURVES (Ta= 25°C)(Con.)


8.OUTLINE AND DIMENSIONS

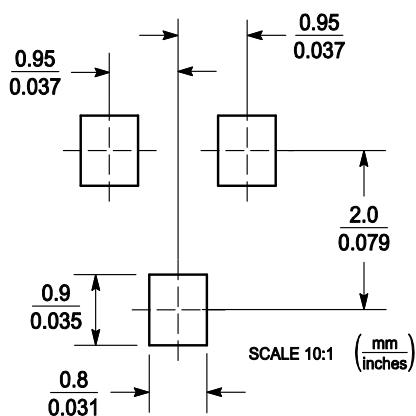
Notes:

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	0.89	1	1.11	0.035	0.04	0.044
A1	0.01	0.06	0.1	0.001	0.002	0.004
b	0.37	0.44	0.5	0.015	0.018	0.02
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.9	3.04	0.11	0.114	0.12
E	1.20	1.3	1.4	0.047	0.051	0.055
e	1.78	1.9	2.04	0.07	0.075	0.081
L	0.10	0.2	0.3	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H _E	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

9.SOLDERING FOOTPRINT



DISCLAIMER

- Curve guarantee in the specification. The curve of test items with electric parameter is used as quality guarantee. The curve of test items without electric parameter is used as reference only.
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