

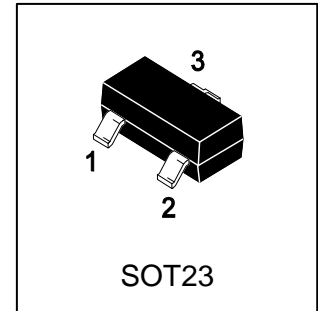
# LBSS4240LT1G

## S-LBSS4240LT1G

General Purpose Transistors NPN Silicon

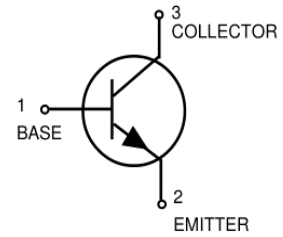
### 1. FEATURES

- 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
Total power dissipation	PD	0.3	W
Junction temperature	TJ	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)	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

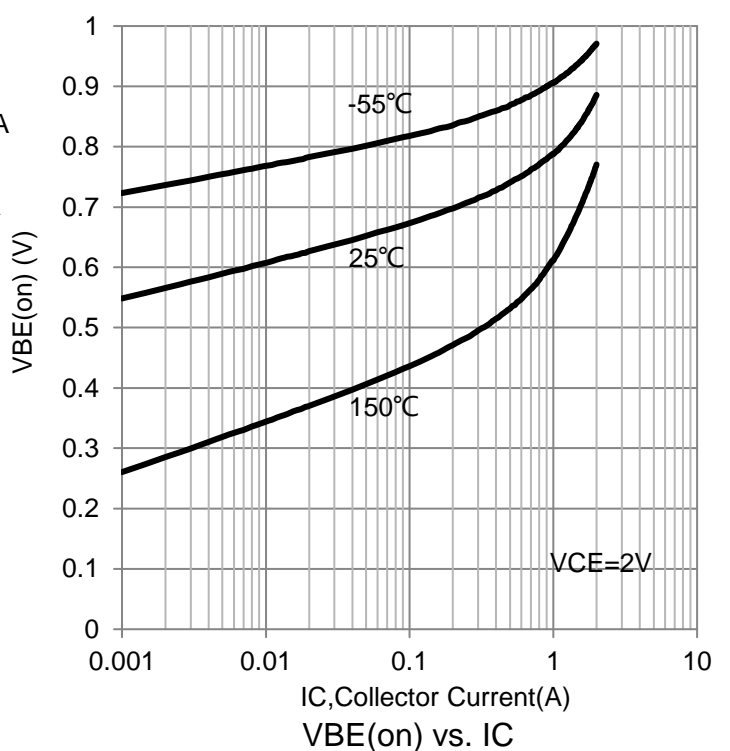
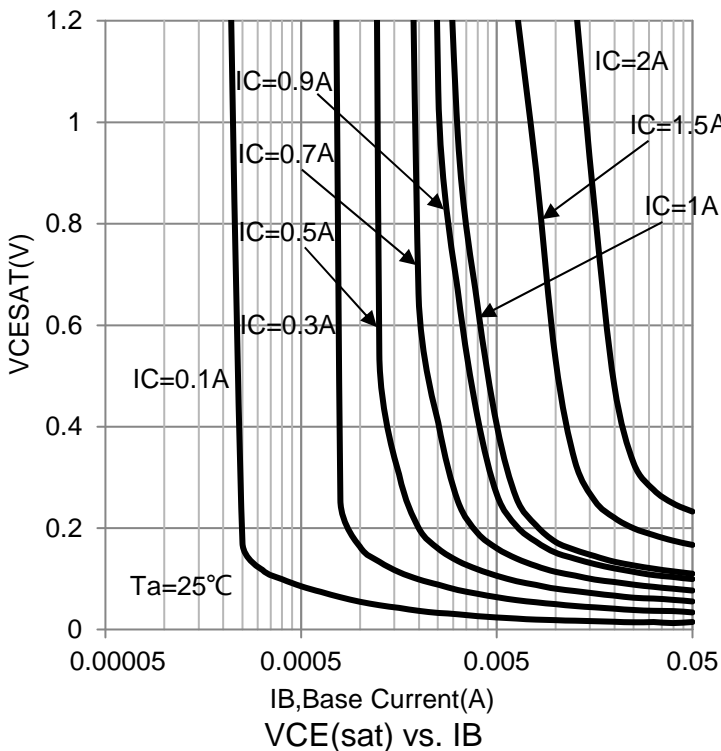
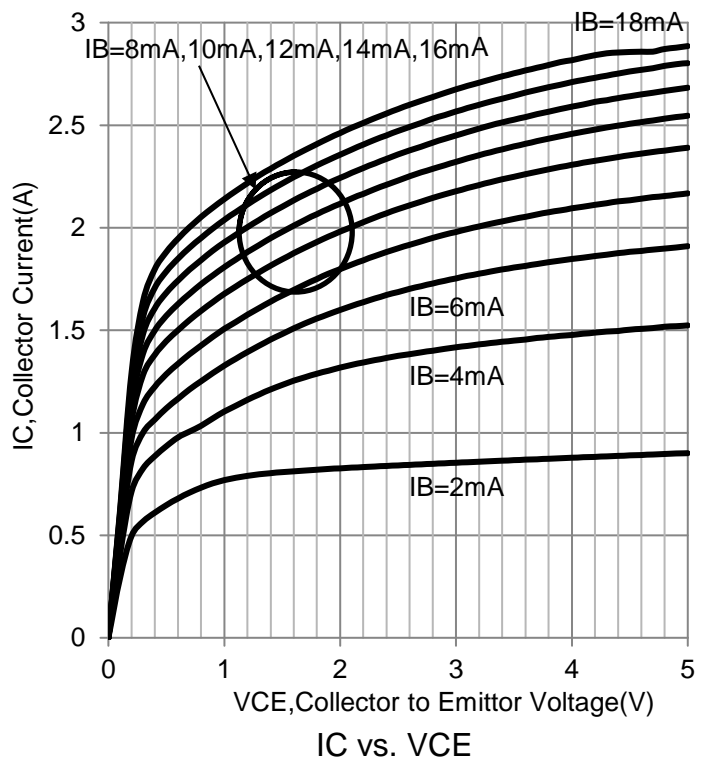
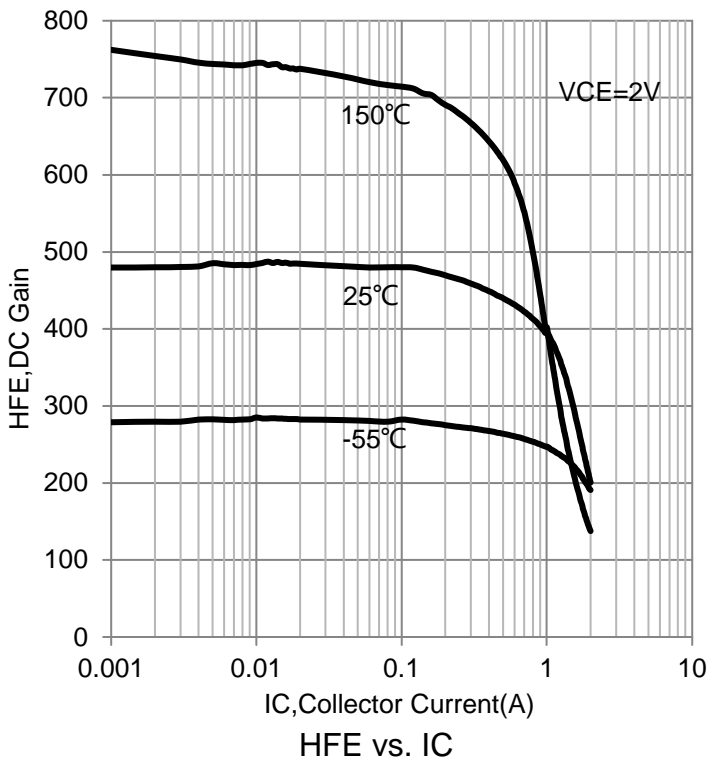
2.Device mounted on a printed-circuit board,single sided copper,tinplated and mounted pad for collector 1 cm<sup>2</sup>.

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

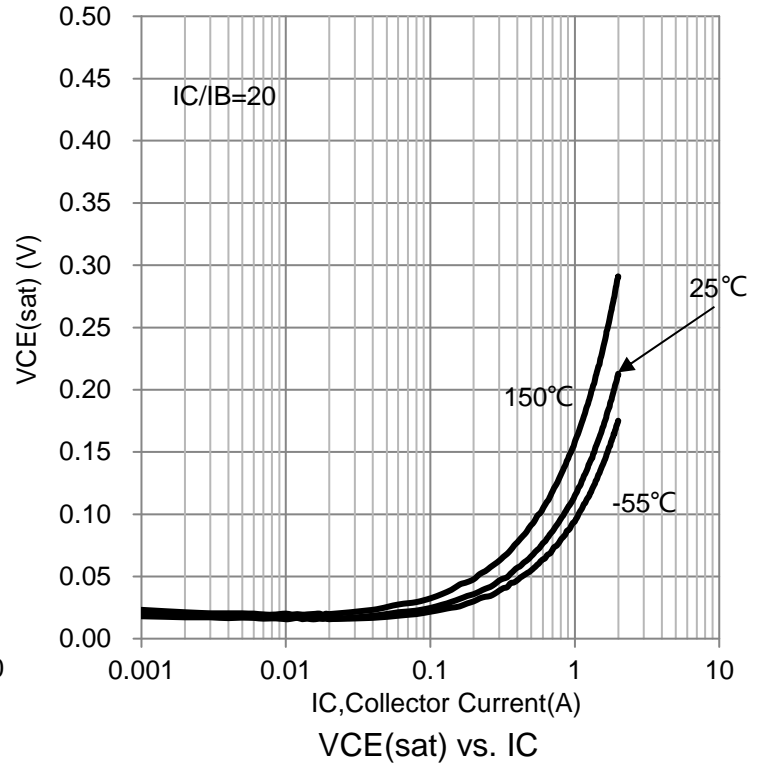
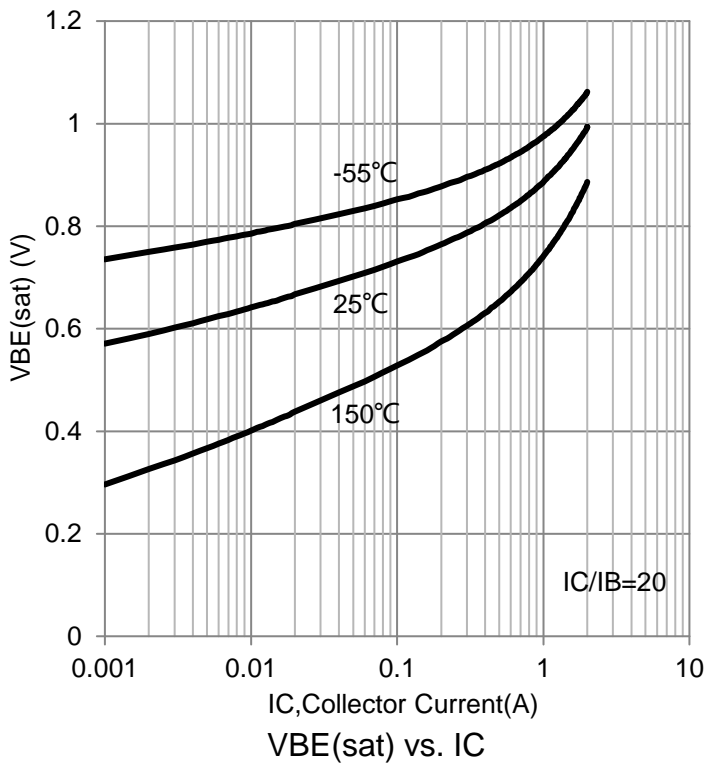
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector-Base cut-off current (IE = 0, VCB = 30 V)	ICBO	-	-	100	nA
Emitter-Base cut-off current (IC = 0, VEB = 4 V)	IEBO	-	-	100	nA
DC current gain (IC = 100 mA, VCE = 2 V) (IC = 500 mA, VCE = 2 V) (IC = 1 A, VCE = 2 V) (IC = 2 A, VCE = 2 V)	hFE	350 300 300 150	- - - -	- - - -	
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)**



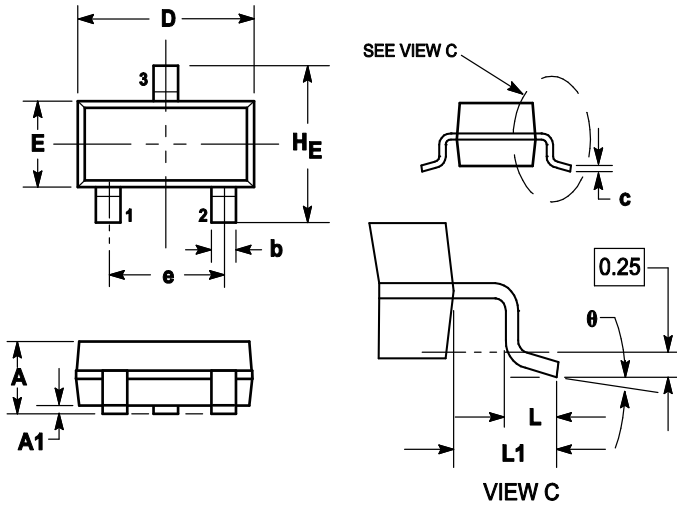
**7. ELECTRICAL CHARACTERISTICS CURVES (Ta= 25°C)(Con.)**



### 8. OUTLINE AND DIMENSIONS

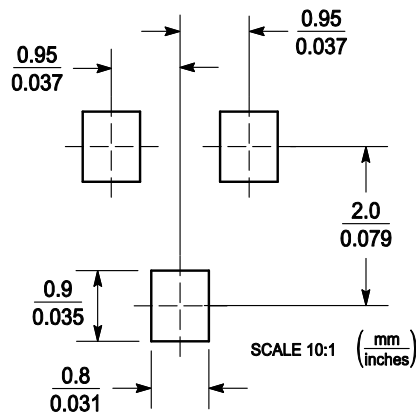
Notes:

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
HE	2.10	2.4	2.64	0.083	0.094	0.104
θ	0°	---	10°	0°	---	10°

### 9. SOLDERING FOOTPRINT



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