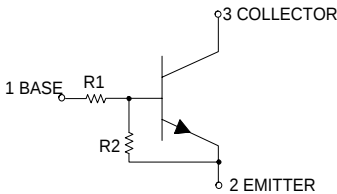
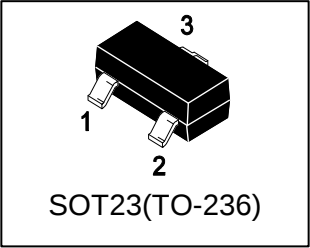


LMUN2233LT1G

Bias Resistor Transistor
NPN Silicon Surface Mount Transistor
with Monolithic Bias Resistor Network



1. FEATURES

- Simplifies circuit design
- Reduces board space and component count
- We declare that the material of product compliance with RoHS requirements and Halogen Free.

2. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	R1(K)	R2(K)	Vin(V)	Shipping
LMUN2233LT1G	A8K	4.7	47	-5~+30	3000/Tape&Reel
LMUN2233LT3G	A8K	4.7	47	-5~+30	13000/Tape&Reel

3. MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector–Emitter Voltage	VCEO	50	V
Collector–Base Voltage	VCBO	50	V
Collector Current — Continuous	IC	100	mA

4. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C Derate above 25°C	PD	246 1.5	mW mW/°C
Thermal Resistance, Junction–to–Ambient(Note 1)	RθJA	508	°C/W
Junction and Storage temperature	TJ,Tstg	-55~+150	°C

1. FR-5 @ Minimum Pad.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

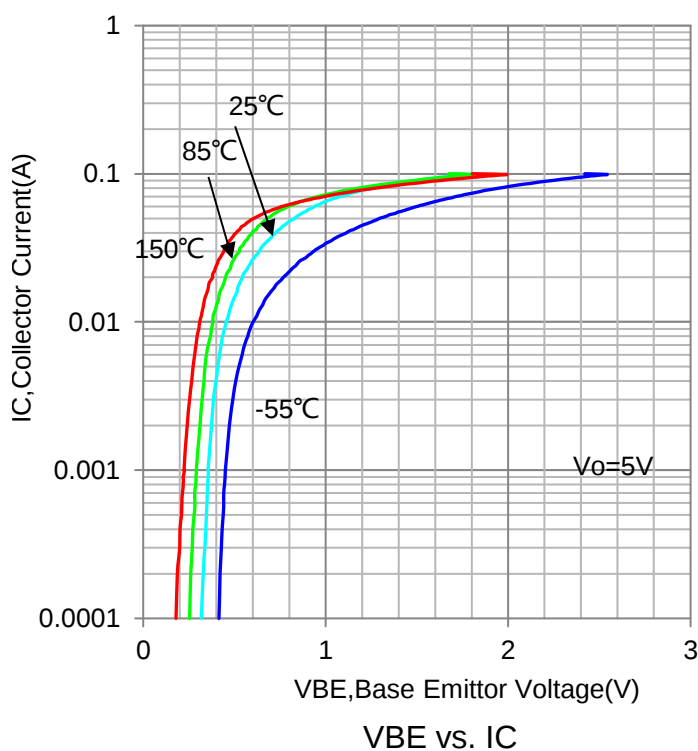
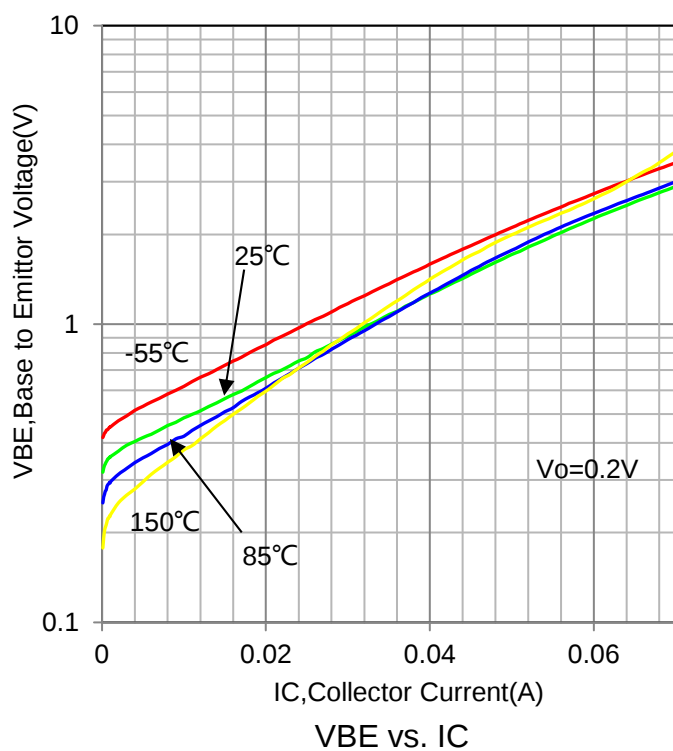
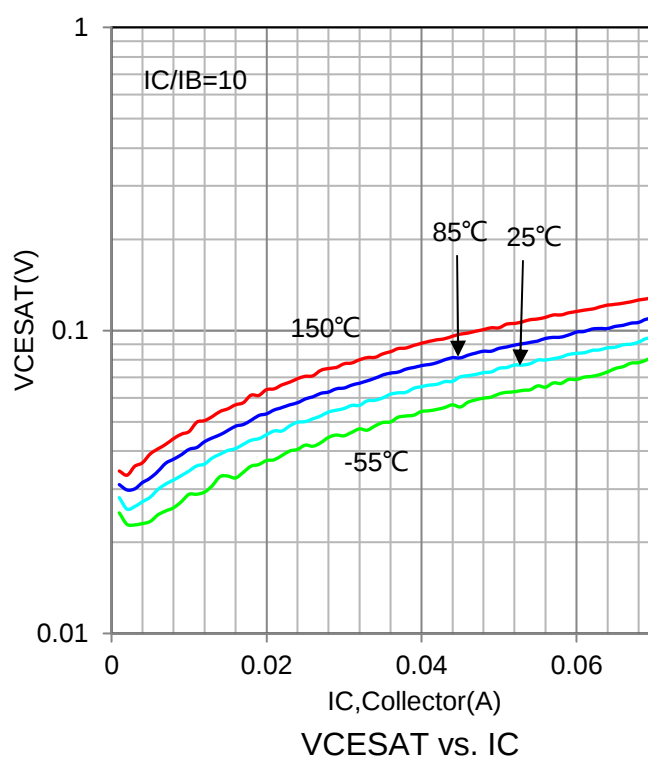
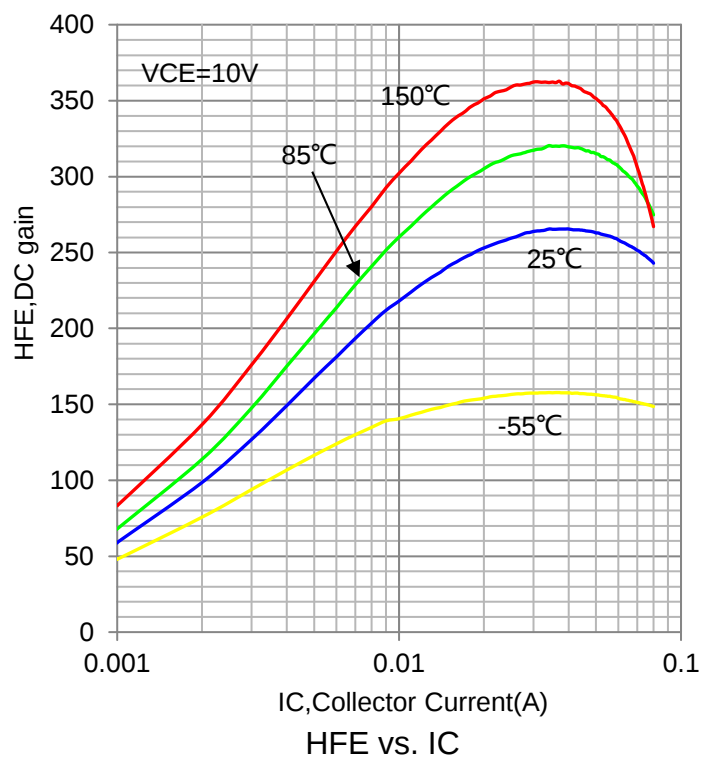
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 2.0 mA, IB = 0)	VBR(CEO)	50	-	-	V
Collector–Base Breakdown Voltage (IC = 10 μ A, IE = 0)	VBR(CBO)	50	-	-	V
Collector-Base Cutoff Current (VCB = 50 V, IE = 0)	ICBO	-	-	100	nA
Collector-Emitter Cutoff Current (VCE = 50 V, IB = 0)	ICEO	-	-	500	nA
Emitter-Base Cutoff Current (VEB = 6.0 V, IC = 0)	IEBO	-	-	0.18	mA

ON CHARACTERISTICS (Note 2.)

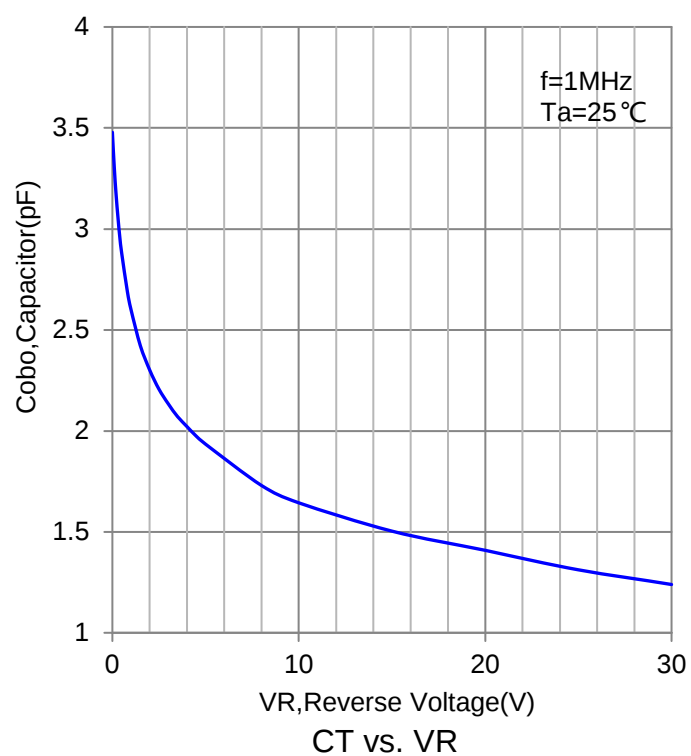
DC Current Gain (IC = 5.0 mA, VCE = 10 V)	HFE	80	200	-	
Collector–Emitter Saturation Voltage (IC = 10 mA, IB = 1 mA)	VCE(sat)	-	-	0.25	V
Output Voltage (on) (VCC = 5.0 V, VB = 2.5 V, RL = 1.0K Ω)	VOL	-	-	0.2	V
Output Voltage (on) (VCC = 5.0 V, VB = 0.25 V, RL = 1.0K Ω)	VOH	4.9	-	-	V
Input Resistor	R1	3.3	4.7	6.1	K Ω
Resistor Ratio	R1/R2	0.08	0.1	0.12	
Input Voltage (VCE = 5V, IC = 100 μ A)	VI(off)	-	-	0.5	V
Input Voltage (VCE = 0.3V, IC = 5mA)	VI(on)	1.3	-	-	V

2. Pulse Test: Pulse Width < 300 μ s, Duty Cycle < 2.0%

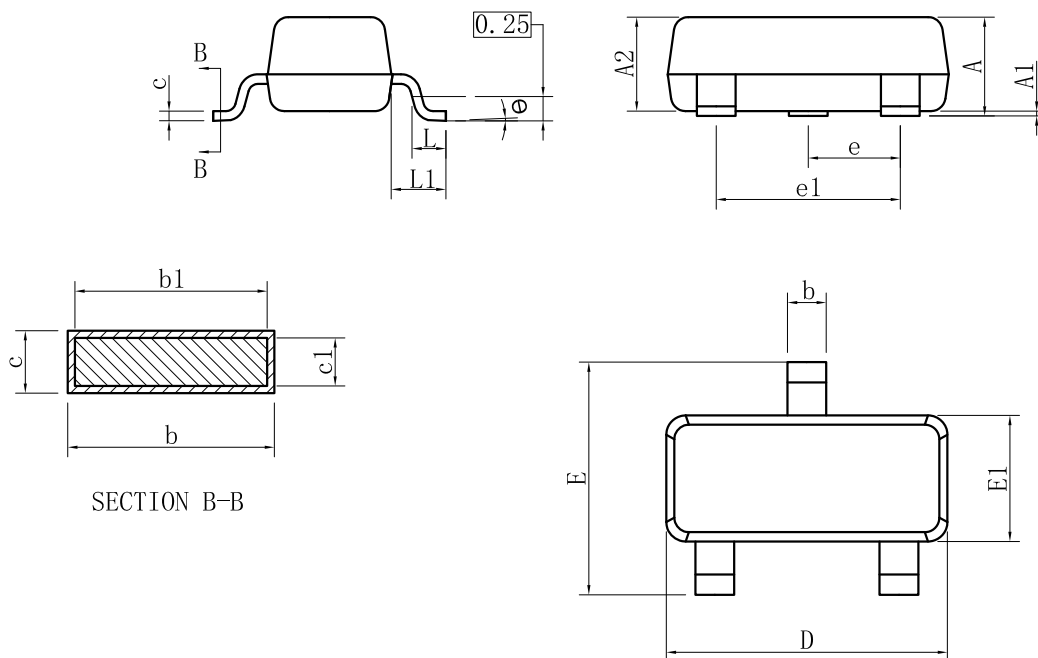
6. ELECTRICAL CHARACTERISTICS CURVES



6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



7.OUTLINE AND DIMENSIONS

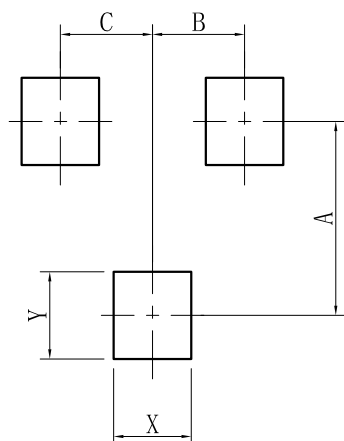


SOT23			
DIM	MIN	NOR	MAX
A	0.89	—	1.12
A1	0.01	—	0.10
A2	0.88	0.95	1.02
b	0.30	—	0.50
b1	0.30	0.40	0.45
c	0.08	—	0.20
c1	0.08	0.10	0.16
D	2.80	2.90	3.04
E	2.10	—	2.64
E1	1.20	1.30	1.40
e	0.95BSC		
e1	1.90BSC		
L	0.40	0.46	0.60
L1	0.54REF		
θ	0°	—	8°
All Dimensions in mm			

GENERAL NOTES

- 1.Top package surface finish Ra0.4±0.2um
- 2.Bottom package surface finish Ra0.7±0.2um
- 3.Side package surface finish Ra0.4±0.2um

8.SOLDERING FOOTPRINT



SOT-23	
DIM	(mm)
X	0.80
Y	0.90
A	2.00
B	0.95
C	0.95

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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