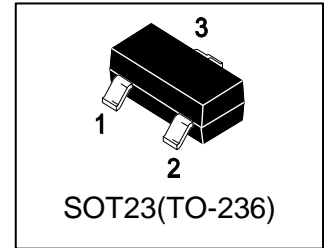


# LMUN2211LT1G

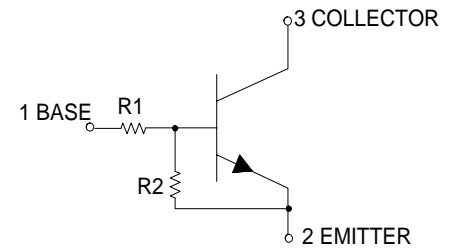
## S-LMUN2211LT1G

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.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.



### 2. DEVICE MARKING AND RESISTOR VALUES

Device	Marking	R1(K)	R2(K)	Vin(V)	Shipping
LMUN2211LT1G	A8A	10	10	-10+40	3000/Tape&Reel
LMUN2211LT3G	A8A	10	10	-10+40	10000/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)	ROJA	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

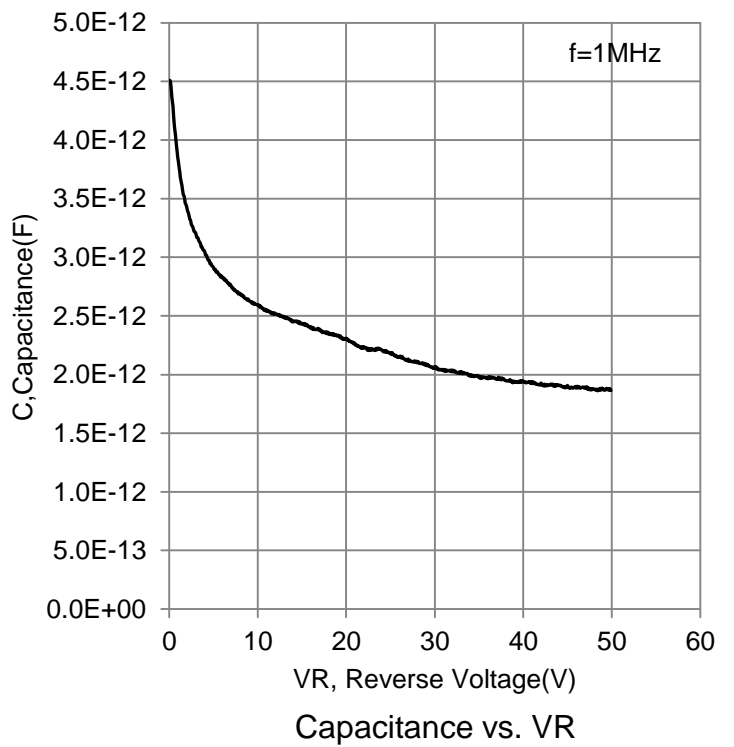
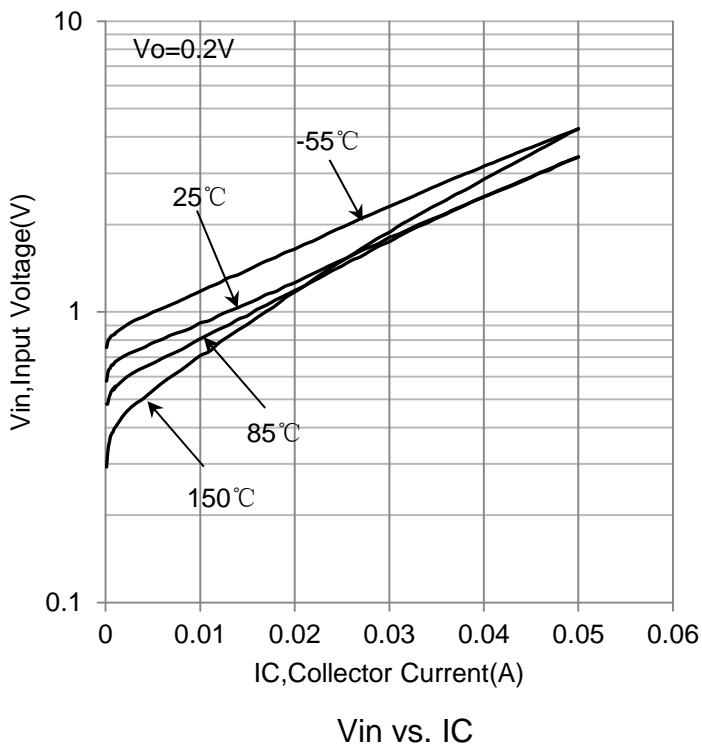
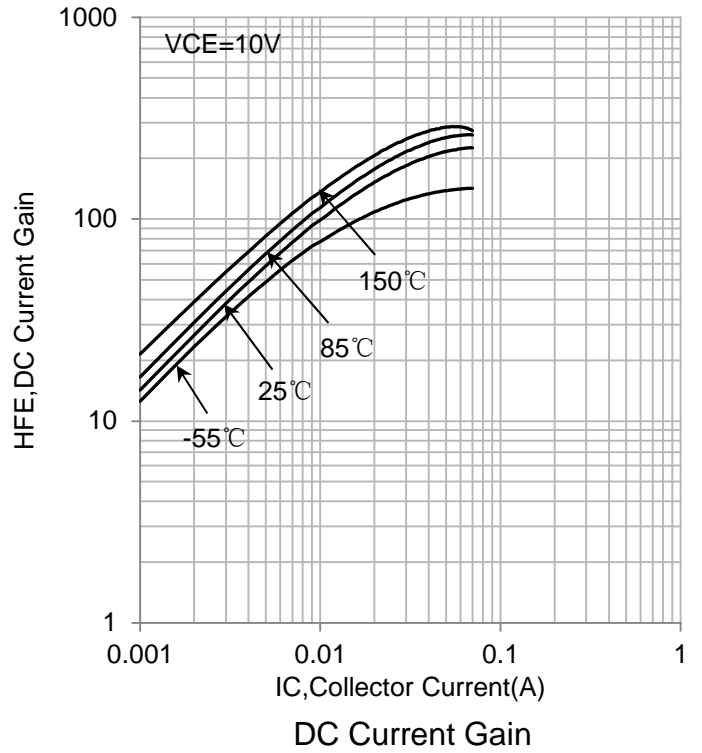
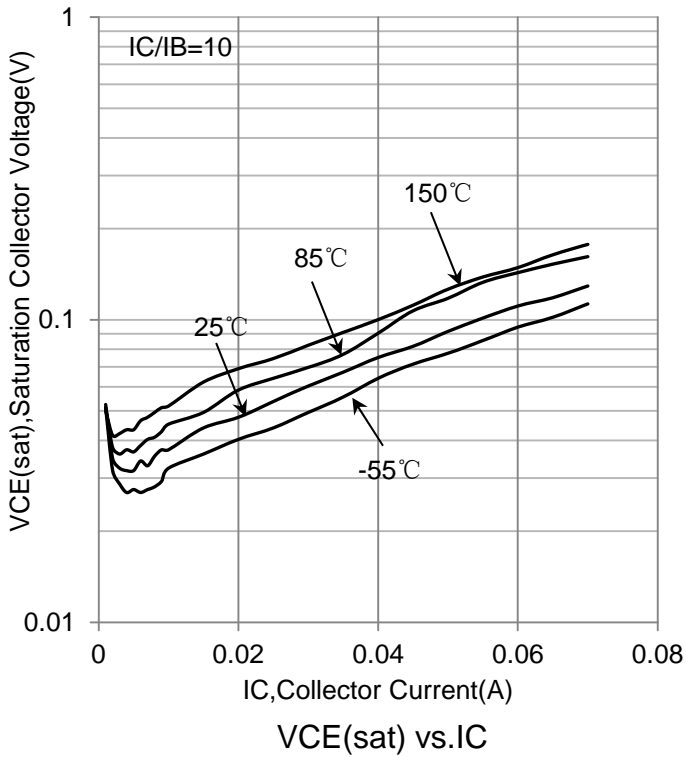
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Collector–Emitter Breakdown Voltage (IC = 2.0 mA, IB = 0)	VBR(CEO)	50	-	-	V
Collector–Base Breakdown Voltage (IC = 10 μA, IE = 0)	VBR(CBO)	50	-	-	V
Collector-Base Cutoff Current (VCB = 50 V, IE = 0)	ICBO	-	-	100	nA
Collector-Emitter Cutoff Current (VCE = 50 V, IB = 0)	ICEO	-	-	500	nA
Emitter-Base Cutoff Current (VEB = 6.0 V, IC = 0)	IEBO	-	-	0.5	mA

## ON CHARACTERISTICS (Note 2.)

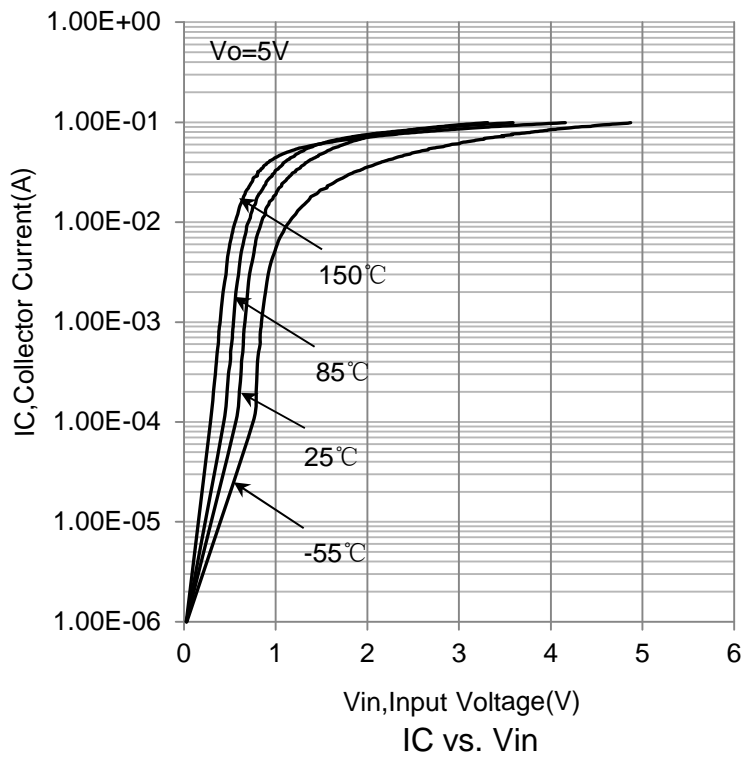
DC Current Gain (IC = 5.0 mA, VCE = 10 V)	HFE	35	60	-	
Collector–Emitter Saturation Voltage (IC = 10 mA, IB = 0.3 mA)	VCE(sat)	-	-	0.25	V
Input Voltage(on) (VCE = 0.3V, IC = 10mA)	VIN(on)	3.0	-	-	V
Input Voltage(off) (VCE = 5V, IC = 100μA)	VIN(off)	-	-	0.5	V
Output Voltage (on) (VCC = 5.0 V, VB = 2.5 V, RL = 1.0KΩ)	VOL	-	-	0.2	V
Output Voltage (on) (VCC = 5.0 V, VB = 0.5 V, RL = 1.0KΩ)	VOH	4.9	-	-	V
Input Resistor	R1	7	10	13	KΩ
Resistor Ratio	R1/R2	0.8	1	1.2	

2. Pulse Test: Pulse Width &lt; 300 μs, Duty Cycle &lt; 2.0%

### 6. ELECTRICAL CHARACTERISTICS CURVES



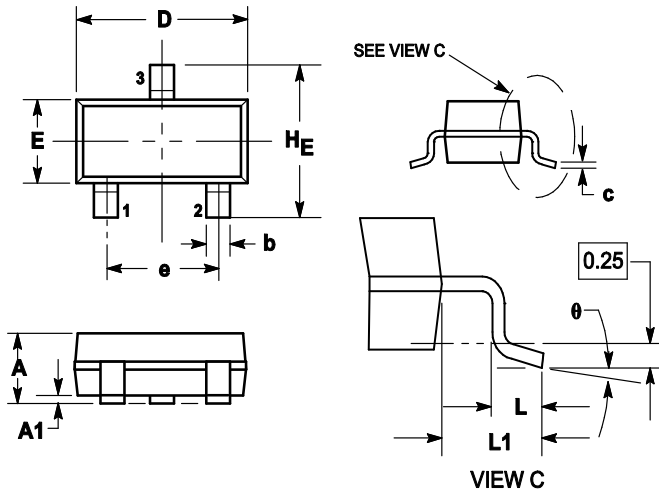
### 6. ELECTRICAL CHARACTERISTICS CURVES(Con.)



### 7. OUTLINE AND DIMENSIONS

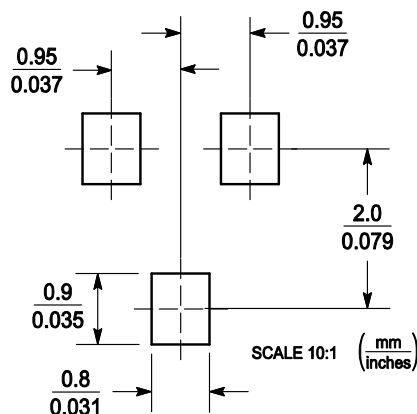
Notes:

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	0.89	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 <sub>E</sub>	2.10	2.4	2.64	0.083	0.094	0.104
$\theta$	0°	---	10°	0°	---	10°

### 8. 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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