

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

● FEATURES

- 1) Simplifies Circuit Design
- 2) Reduces Board Space and Component Count
- 3) The SC-70/SOT-323 package can be soldered using wave or reflow.
The modified gull-winged leads absorb thermal stress during soldering eliminating the possibility of damage to the die.
- 4) We declare that the material of product compliant with RoHS requirements and Halogen Free.
- 5) S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

● DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
LMUN5111T1G	6A	3000/Tape&Reel
LMUN5111T3G	6A	10000/Tape&Reel

● MAXIMUM RATINGS(Ta = 25°C)

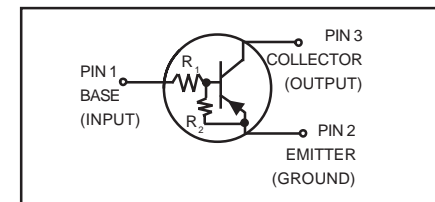
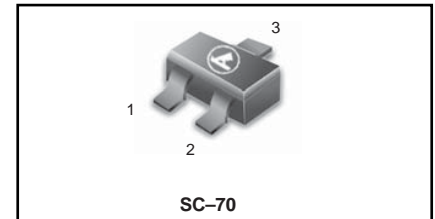
Parameter	Symbol	Limits	Unit
Collector-Base Voltage	VCBO	50	V
Collector-Emitter Voltage	VCEO	50	V
Collector Current	IC	100	mA

● THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Total Power Dissipation @Ta = 25°C	PD	202(Note 1.) 310(Note 2.)	mW
Derate above 25°C		1.6(Note 1.) 2.5(Note 2.)	°C/W
Thermal Resistance – Junction-to-Ambient	RθJA	618(Note 1.) 403(Note 2.)	°C/W
Thermal Resistance – Junction-to-Lead	RθJL	280 (Note 1) 332 (Note 2)	°C/W
Operating and Storage Temperature Range	Topr, Tstg	-55 to +150	°C

1. FR-4 @ Minimum Pad
2. FR-4 @ 1.0 x 1.0 inch Pad.

LMUN5111T1G S-LMUN5111T1G



LMUN5111T1G,S-LMUN5111T1G

● ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-Base Cutoff Current	ICBO	–	–	100	nA	V _{CB} = 50 V, I _E = 0
Collector-Emitter Cutoff Current	ICEO	–	–	500	nA	V _{CE} = 50 V, I _B = 0
Emitter-Base Cutoff Current	IEBO	–	–	0.5	mA	V _{EB} = 6.0 V, I _C = 0
Collector-Base Breakdown Voltage	V(BR)CBO	50	–	–	V	I _C = 10 μA, I _E = 0
Collector-Emitter Breakdown Voltage	V(BR)CEO	50	–	–	V	I _C = 2.0 mA, I _B = 0

ON CHARACTERISTICS(Note2.)

DC Current Gain	hFE	35	60	–		V _{CE} = 10 V, I _C = 5.0 mA
Collector-Emitter Saturation Voltage	V _{CE(sat)}	–	–	0.25	V	I _C = 10 mA, I _B = 0.3 mA
Output Voltage (on)	V _{OL}	–	–	0.2	V	V _{CC} = 5.0 V, V _B = 2.5 V, R _L = 1.0 kΩ
Output Voltage (off)	V _{OH}	4.9	–	–	V	V _{CC} = 5.0 V, V _B = 0.5 V, R _L = 1.0 kΩ
Input Resistor	R1	7	10	13	kΩ	
Resistor Ratio	R1/R2	0.8	1	1.2		

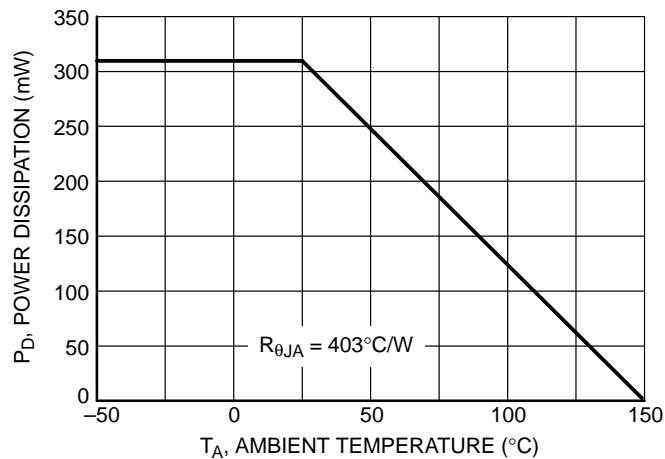


FIG.1 Derating Curve

LMUN5111T1G,S-LMUN5111T1G

ELECTRICAL CHARACTERISTIC CURVES

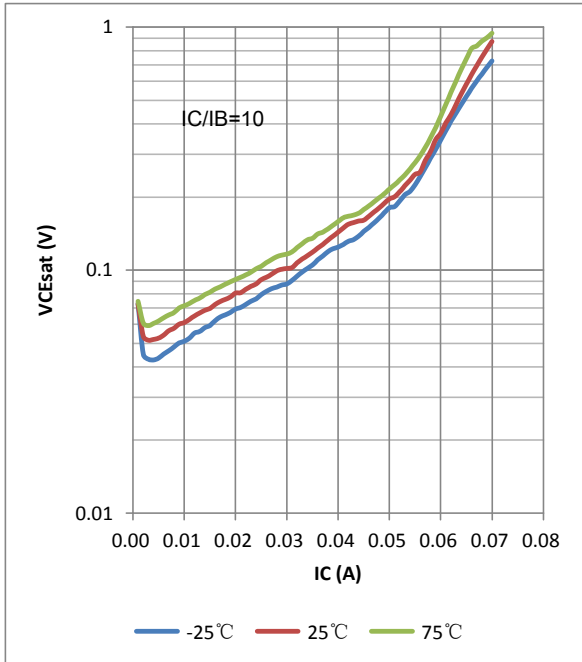


FIG.2 $V_{CE(sat)}$ vs. I_C

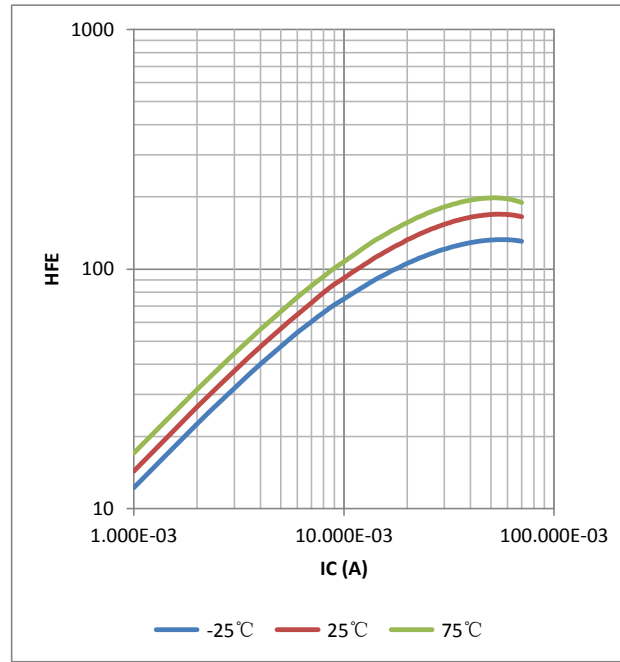


FIG.3 DC Current Gain

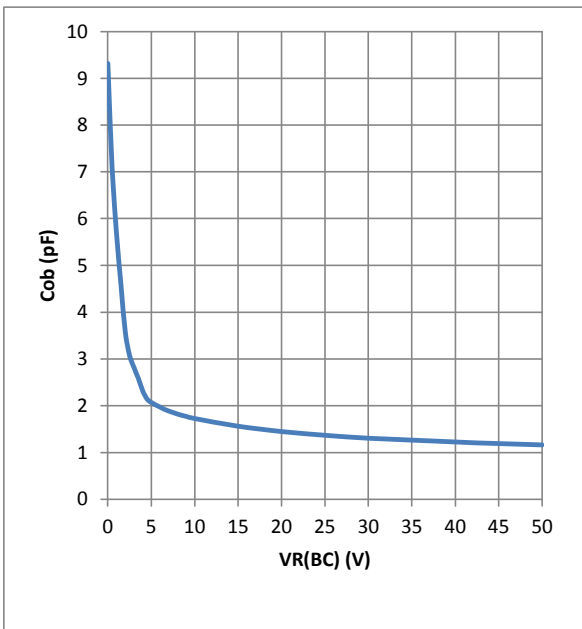


FIG.4 Output Capacitance

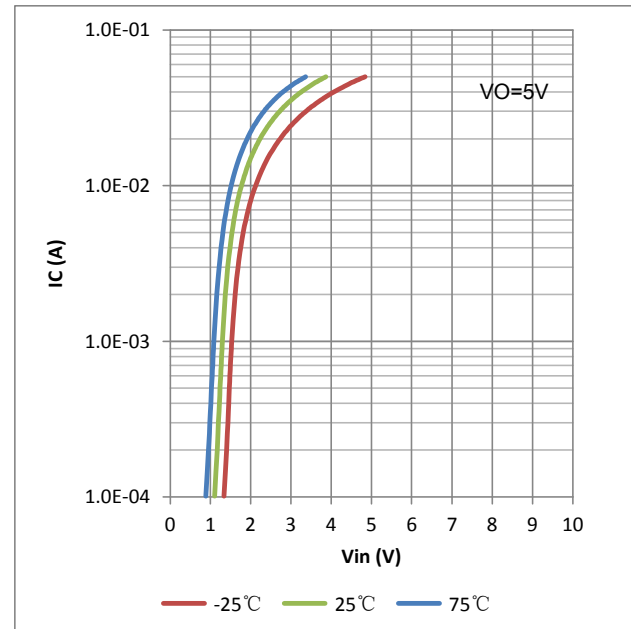


FIG.5 Output Current vs. Input Voltage

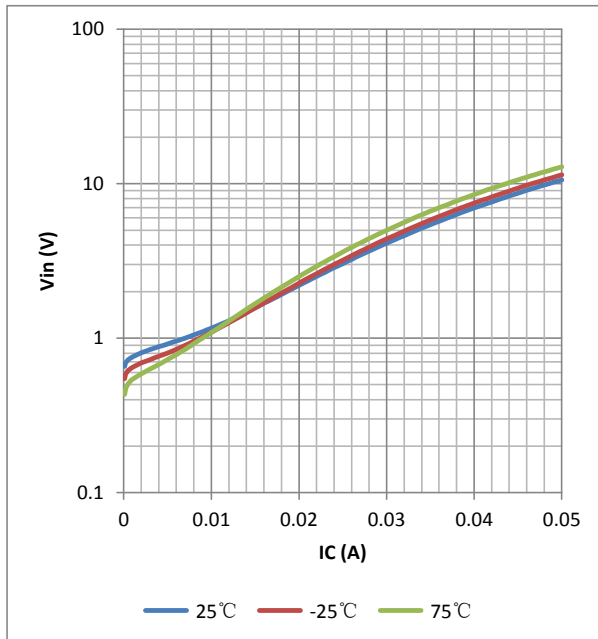
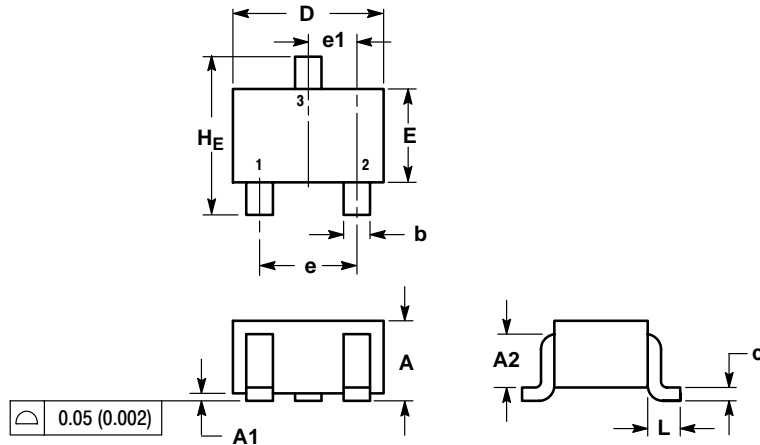
LMUN5111T1G,S-LMUN5111T1G**ELECTRICAL CHARACTERISTIC CURVES**

FIG.6 Input Voltage vs. Output Current

LMUN5111T1G,S-LMUN5111T1G

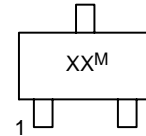
SC-70



NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.032	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A2	0.7 REF			0.028 REF		
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	0.65 BSC			0.026 BSC		
L	0.425 REF			0.017 REF		
HE	2.00	2.10	2.40	0.079	0.083	0.095

GENERIC MARKING DIAGRAM



XX = Specific Device Code
 M = Date Code
 ▪ = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present.

SOLDERING FOOTPRINT*

