

VHF / UHF Transistor

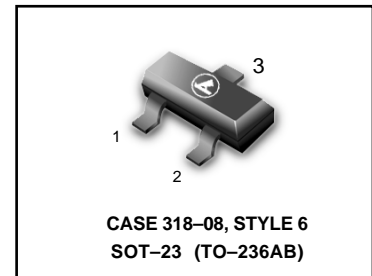
NPN Silicon

- We declare that the material of product compliance with RoHS requirements.

Ordering Information

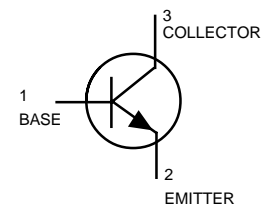
| Device | Marking | Shipping |
|------------------------------|---------|-----------------|
| LMBT918LT1G S-LMBT918LT1G | M3B | 3000/Tape&Reel |
| LMBT918LT3G S-LMBT918LT3G | M3B | 10000/Tape&Reel |

LMBT918LT1G
S-LMBT918LT1G



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--------------------------------|-----------|-------|------|
| Collector-Emitter Voltage | V_{CEO} | 15 | Vdc |
| Collector-Base Voltage | V_{CBO} | 30 | Vdc |
| Emitter-Base Voltage | V_{EBO} | 3.0 | Vdc |
| Collector Current — Continuous | I_C | 50 | mAdc |



THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|--|-----------------|-------------|----------------------------|
| Total Device Dissipation FR-5 Board, (1) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 225 | mW |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C/W}$ |
| Total Device Dissipation Alumina Substrate, (2) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 | mW |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 2.4 | $\text{mW}/^\circ\text{C}$ |
| Junction and Storage Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

DEVICE MARKING

LMBT918LT1G = M3B

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

| Characteristic | Symbol | Min | Max | Unit |
|----------------|--------|-----|-----|------|
|----------------|--------|-----|-----|------|

OFF CHARACTERISTICS

| | | | | |
|--|---------------|-----|----|------|
| Collector-Emitter Breakdown Voltage ($I_C = 3.0 \text{ mAdc}, I_E = 0$) | $V_{(BR)CEO}$ | 15 | — | Vdc |
| Collector-Base Breakdown Voltage ($I_C = 1.0 \mu\text{Adc}, I_E = 0$) | $V_{(BR)CBO}$ | 30 | — | Vdc |
| Emitter-Base Breakdown Voltage ($I_E = 10 \mu\text{Adc}, I_C = 0$) | $V_{(BR)EBO}$ | 3.0 | — | Vdc |
| Collector Cutoff Current ($V_{CB} = 15 \text{ Vdc}, I_E = 0$) | I_{CBO} | — | 50 | nAdc |

1. FR-5 = 1.0 x 0.75 x 0.062 in.

2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

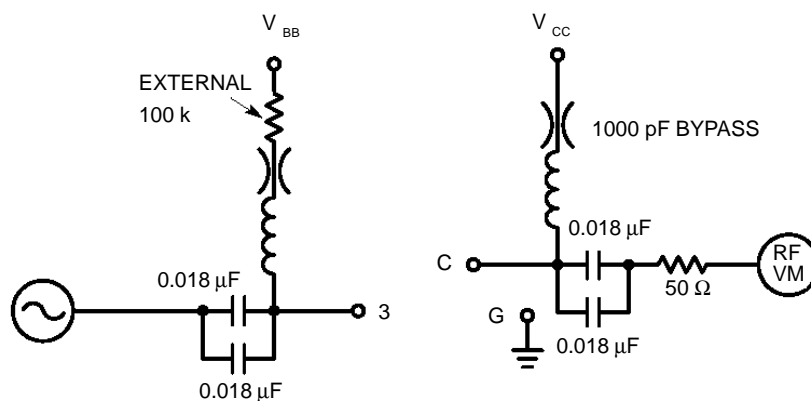
LMBT918LT1G , S-LMBT918LT1G

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted) (Continued)

| Characteristic | Symbol | Min | Max | Unit |
|--|---------------|-----|-----|------|
| ON CHARACTERISTICS | | | | |
| DC Current Gain ($I_C = 3.0 \text{ mA}$, $V_{CE} = 1.0 \text{ Vdc}$) | h_{FE} | 20 | — | — |
| Collector–Emitter Saturation Voltage ($I_C = 10 \text{ mA}$, $I_B = 1.0 \text{ mA}$) | $V_{CE(sat)}$ | — | 0.4 | Vdc |
| Base–Emitter Saturation Voltage ($I_C = 10 \text{ mA}$, $I_B = 1.0 \text{ mA}$) | $V_{BE(sat)}$ | — | 1.0 | Vdc |

SMALL–SIGNAL CHARACTERISTICS

| | | | | |
|---|-----------|-----|------------|-----|
| Current–Gain — Bandwidth Product ($I_C = 4.0 \text{ mA}$, $V_{CE} = 10 \text{ Vdc}$, $f = 100 \text{ MHz}$) | f_T | 600 | — | MHz |
| Output Capacitance ($V_{CB} = 0 \text{ Vdc}$, $I_E = 0$, $f = 1.0 \text{ MHz}$) ($V_{CB} = 10 \text{ Vdc}$, $I_E = 0$, $f = 1.0 \text{ MHz}$) | C_{obo} | — | 3.0 1.7 | pF |
| Input Capacitance ($V_{EB} = 0.5 \text{ Vdc}$, $I_C = 0$, $f = 1.0 \text{ MHz}$) | C_{ibo} | — | 2.0 | pF |
| Noise Figure ($I_C = 1.0 \text{ mA}$, $V_{CE} = 6.0 \text{ Vdc}$, $R_S = 50 \Omega$, $f = 60 \text{ MHz}$) (Figure 1) | NF | — | 6.0 | dB |
| Power Output ($I_C = 8.0 \text{ mA}$, $V_{CB} = 15 \text{ Vdc}$, $f = 500 \text{ MHz}$) | P_{out} | 30 | — | mW |
| Common–Emitter Amplifier Power Gain ($I_C = 6.0 \text{ mA}$, $V_{CB} = 12 \text{ Vdc}$, $f = 200 \text{ MHz}$) | G_{pe} | 11 | — | dB |



NF TEST CONDITIONS

$I_C = 1.0 \text{ mA}$
 $V_{CE} = 6.0 \text{ VOLTS}$
 $R_S = 50 \Omega$
 $f = 60 \text{ MHz}$

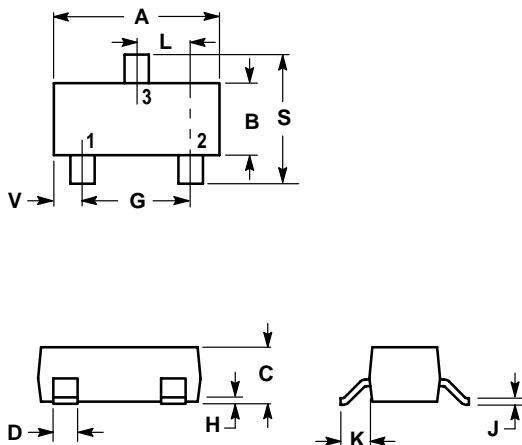
G_{pe} TEST CONDITIONS

$I_C = 6.0 \text{ mA}$
 $V_{CE} = 12 \text{ VOLTS}$
 $f = 200 \text{ MHz}$

Figure 1. NF, G_{pe} Measurement Circuit 20–200

LMBT918LT1G , S-LMBT918LT1G

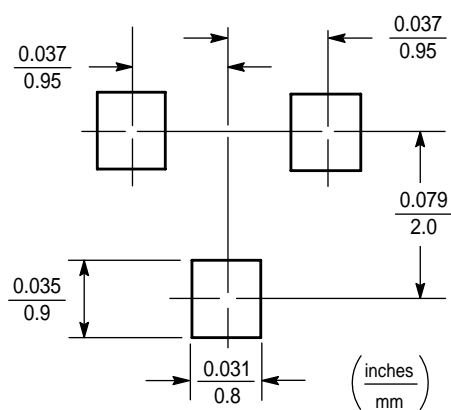
SOT-23



NOTES:

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

| DIM | INCHES | | MILLIMETERS | |
|-----|--------|--------|-------------|-------|
| | MIN | MAX | MIN | MAX |
| A | 0.1102 | 0.1197 | 2.80 | 3.04 |
| B | 0.0472 | 0.0551 | 1.20 | 1.40 |
| C | 0.0350 | 0.0440 | 0.89 | 1.11 |
| D | 0.0150 | 0.0200 | 0.37 | 0.50 |
| G | 0.0701 | 0.0807 | 1.78 | 2.04 |
| H | 0.0005 | 0.0040 | 0.013 | 0.100 |
| J | 0.0034 | 0.0070 | 0.085 | 0.177 |
| K | 0.0140 | 0.0285 | 0.35 | 0.69 |
| L | 0.0350 | 0.0401 | 0.89 | 1.02 |
| S | 0.0830 | 0.1039 | 2.10 | 2.64 |
| V | 0.0177 | 0.0236 | 0.45 | 0.60 |



单击下面可查看定价，库存，交付和生命周期等信息

[>>LRC\(乐山无线电\)](#)