

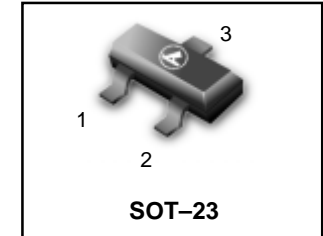
# General Purpose Transistors

## PNP Silicon

LMBT2516QLT1G Series

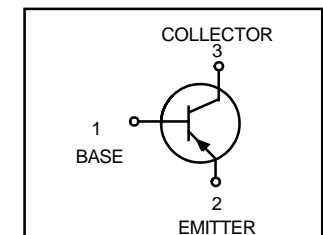
### FEATURE

- High current capacity in compact package.
- Epitaxial planar type.
- NPN complement: LMBT2506QLT1G
- We declare that the material of product compliance with RoHS requirements.



### DEVICE MARKING AND ORDERING INFORMATION

| Device        | Marking | Shipping        |
|---------------|---------|-----------------|
| LMBT2516PLT1G | 1GB     | 3000/Tape&Reel  |
| LMBT2516PLT3G | 1GB     | 10000/Tape&Reel |
| LMBT2516QLT1G | 1GD     | 3000/Tape&Reel  |
| LMBT2516QLT3G | 1GD     | 10000/Tape&Reel |
| LMBT2516RLT1G | 1GF     | 3000/Tape&Reel  |
| LMBT2516RLT3G | 1GF     | 10000/Tape&Reel |
| LMBT2516SLT1G | 1GH     | 3000/Tape&Reel  |
| LMBT2516SLT3G | 1GH     | 10000/Tape&Reel |



### MAXIMUM RATINGS

| Rating                    | Symbol    | Max  | Unit             |
|---------------------------|-----------|------|------------------|
| Collector-Emitter Voltage | $V_{CEO}$ | -25  | V                |
| Collector-Base Voltage    | $V_{CBO}$ | -40  | V                |
| Emitter-Base Voltage      | $V_{EBO}$ | -5   | V                |
| Collector Current         | $I_C$     | -500 | mA <sub>dc</sub> |

### THERMAL CHARACTERISTICS

| Characteristic  | Symbol          | Max         | Unit                       |
|---|-----------------|-------------|----------------------------|
| Total Device Dissipation FR-5 Board,(1)<br>$T_A=25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$        | $P_D$           | 225<br>1.8  | mW<br>mW/ $^\circ\text{C}$ |
| Thermal Resistance,Junction to Ambient  | $R_{\theta JA}$ | 556         | $^\circ\text{C/W}$         |
| Total Device Dissipation<br>Alumina Substrate,(2) $T_A=25^\circ\text{C}$<br>Derate above $25^\circ\text{C}$ | $P_D$           | 300<br>2.4  | mW<br>mW/ $^\circ\text{C}$ |
| Thermal Resistance,Junction to Ambient  | $R_{\theta JA}$ | 417         | $^\circ\text{C/W}$         |
| Junction and Storage Temperature  | $T_j, T_{stg}$  | -55 to +150 | $^\circ\text{C}$           |

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.

LMBT2516QLT1G  
Series

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)**

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

**OFF CHARACTERISTICS**

|   |                      |     |   |      |    |
|---|----------------------|-----|---|------|----|
| Collector-Emitter Breakdown Voltage<br>(I <sub>C</sub> =-1.0mA) | V <sub>(BR)CEO</sub> | -25 | - | -    | V  |
| Emitter-Base Breakdown Voltage<br>(I <sub>E</sub> =-100μA)      | V <sub>(BR)EBO</sub> | -5  | - | -    | V  |
| Collector-Base Breakdown Voltage<br>(I <sub>C</sub> =-100μA)    | V <sub>(BR)CBO</sub> | -40 | - | -    | V  |
| Collector Cutoff Current (V <sub>CB</sub> =-30V)                | I <sub>CBO</sub>     | -   | - | -100 | nA |
| Emitter Cutoff Current (V <sub>EB</sub> =-4V)                   | I <sub>EBO</sub>     | -   | - | -100 | nA |

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)**

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

**ON CHARACTERISTICS**

|   |                    |     |   |      |   |
|---|--------------------|-----|---|------|---|
| DC Current Gain<br>I <sub>C</sub> =-100mA, V <sub>CE</sub> =-1V                         | H <sub>FE</sub>    | 100 | - | 600  |   |
| Collector-Emitter Saturation Voltage<br>(I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA) | V <sub>CE(S)</sub> | -   | - | -0.5 | V |
| Base Emitter Saturation Voltage<br>(I <sub>C</sub> =-500mA, I <sub>B</sub> =-50mA)      | V <sub>BE(S)</sub> | -   | - | -1.2 | V |

NOTE :

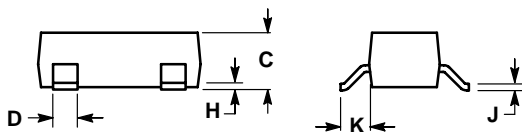
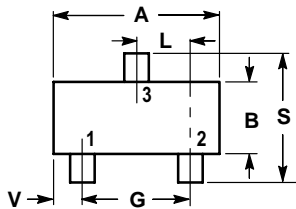
| *               | P       | Q       | R       | S       |
|-----------------|---------|---------|---------|---------|
| h <sub>FE</sub> | 100~200 | 150~300 | 200~400 | 300~600 |

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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  |

PIN 1. BASE  
2. EMITTER  
3. COLLECTOR

