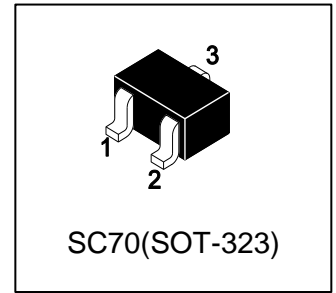


LMBT4401WT1G

S-LMBT4401WT1G

General Purpose Transistors NPN Silicon

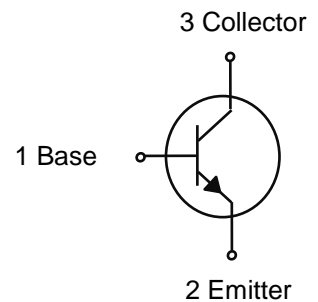


1. FEATURES

- 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 ORDERING INFORMATION

| Device | Marking | Shipping |
|--------------|---------|-----------------|
| LMBT4401WT1G | 2X | 3000/Tape&Reel |
| LMBT4401WT3G | 2X | 10000/Tape&Reel |



3. MAXIMUM RATINGS(Ta = 25°C)

| Parameter | Symbol | Limits | Unit |
|--------------------------------|------------------|--------|------|
| Collector–Emitter Voltage | V _{CEO} | 40 | V |
| Collector–Base Voltage | V _{CBO} | 60 | V |
| Emitter–Base Voltage | V _{EBO} | 6 | V |
| Collector Current — Continuous | I _C | 600 | mA |

4. THERMAL CHARACTERISTICS

| Parameter | Symbol | Limits | Unit |
|--|-----------------------------------|----------|------|
| Total Device Dissipation, FR-5 Board (Note 1) @ TA = 25°C | PD | 150 | mW |
| Thermal Resistance, Junction–to–Ambient(Note 1) | R _{θJA} | 833 | °C/W |
| Junction and Storage temperature | T _J , T _{stg} | -55~+150 | °C |

1. FR-5 = 1.0×0.75×0.062 in.

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

OFF CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|-----------------------|------|------|------|------|
| Collector–Emitter Breakdown Voltage (I _C = 1.0 mA, I _B = 0) | V _{BR} (CEO) | 40 | - | - | V |
| Collector–Base Breakdown Voltage (I _C = 0.1 mA, I _E = 0) | V _{BR} (CBO) | 60 | - | - | V |
| Emitter–Base Breakdown Voltage (I _E = 0.1 mA, I _C = 0) | V _{BR} (EBO) | 6 | - | - | V |
| Collector Cutoff Current (V _{CE} = 35 V, V _{EB} = 0.4V) | I _{CEX} | - | - | 0.1 | μA |
| Base Cutoff Current (V _{CE} = 35 V, V _{EB} = 0.4V) | I _{BEV} | - | - | 0.1 | μA |

5. ELECTRICAL CHARACTERISTICS (Ta= 25°C)(Con.)

ON CHARACTERISTICS (Note 2.)

| | | | | | |
|--|----------|-----------------------------|-----------------------|-------------------------|---|
| DC Current Gain (IC = 0.1 mA, VCE = 1.0 V) (IC = 1.0 mA, VCE = 1.0 V) (IC = 10 mA, VCE = 1.0 V) (IC = 150 mA, VCE = 1.0 V) (IC = 500 mA, VCE = 2.0 V) | HFE | 20 40 80 100 40 | - - - - - | - - - 300 - | |
| Collector–Emitter Saturation Voltage (IC = 150 mA, IB = 15 mA) (IC = 500 mA, IB = 50 mA) | VCE(sat) | - - | - - | 0.4 0.75 | V |
| Base–Emitter Saturation Voltage (IC = 150 mA, IB = 15 mA) (IC = 500 mA, IB = 50 mA) | VBE(sat) | 0.75 - | - - | 0.95 1.2 | V |

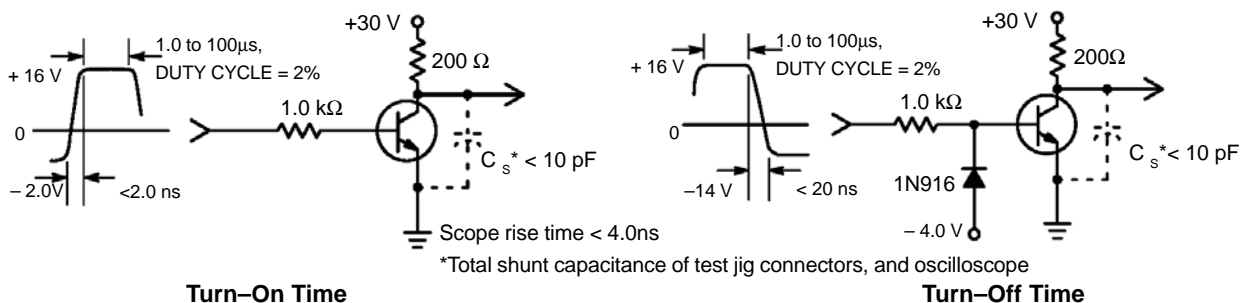
SMALL–SIGNAL CHARACTERISTICS

| | | | | | |
|---|-----|-----|---|-----|-------------------|
| Current–Gain — Bandwidth Product (IC = 20mA, VCE= 10V, f = 100MHz) | fT | 250 | - | - | MHz |
| Collector–Base Capacitance (VCB = 5.0 V, IE = 0, f = 1.0 MHz) | Ccb | - | - | 6.5 | pF |
| Emitter–Base Capacitance (VEB = 0.5 V, IC = 0, f = 1.0 MHz) | Ceb | - | - | 30 | pF |
| Input Impedance (VCE = 10 V, IC = 1.0 mA, f = 1.0 kHz) | hie | 1 | - | 15 | KΩ |
| Voltage Feedback Ratio (VCE = 10 V, IC = 1.0 mA, f = 1.0 kHz) | hre | 0.1 | - | 8 | X10 ⁻⁴ |
| Small–Signal Current Gain (VCE = 10 V, IC = 1.0 mA, f = 1.0 kHz) | hfe | 40 | - | 500 | |
| Output Admittance (VCE = 10 V, IC = 1.0 mA, f = 1.0 kHz) | hoe | 1 | - | 30 | μmhos |

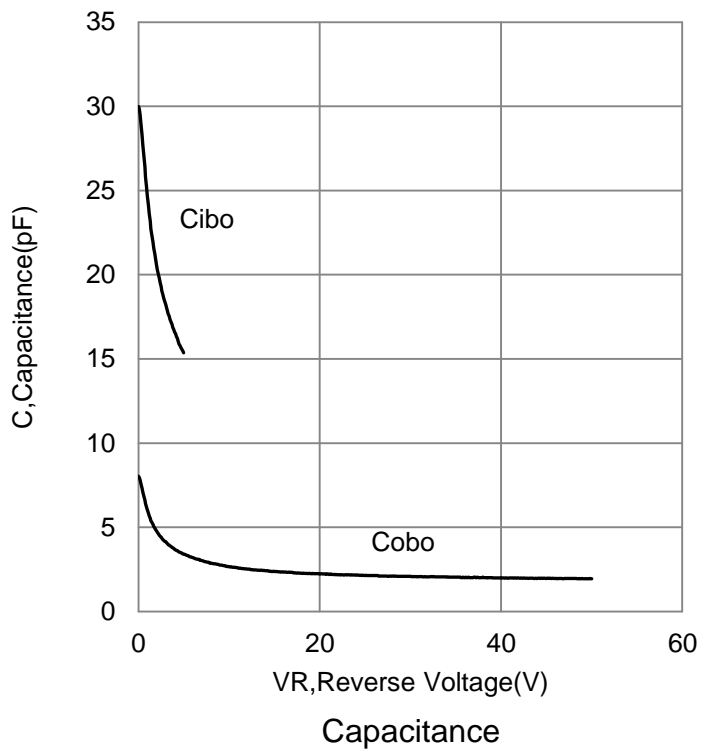
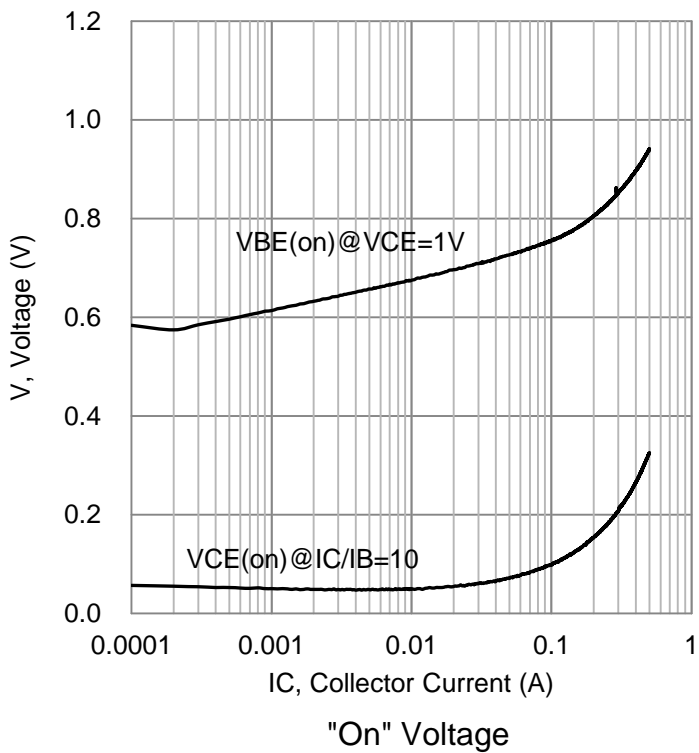
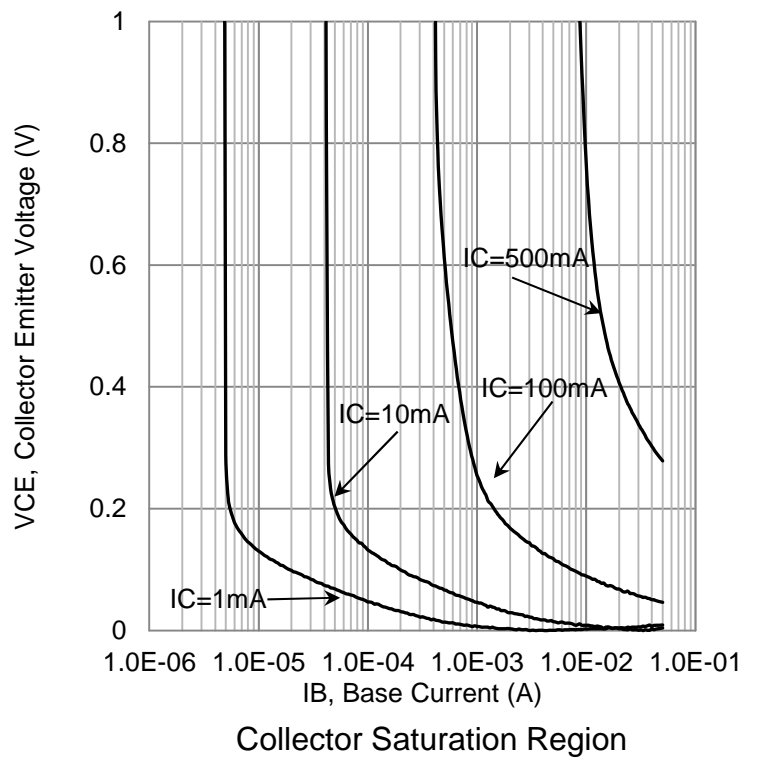
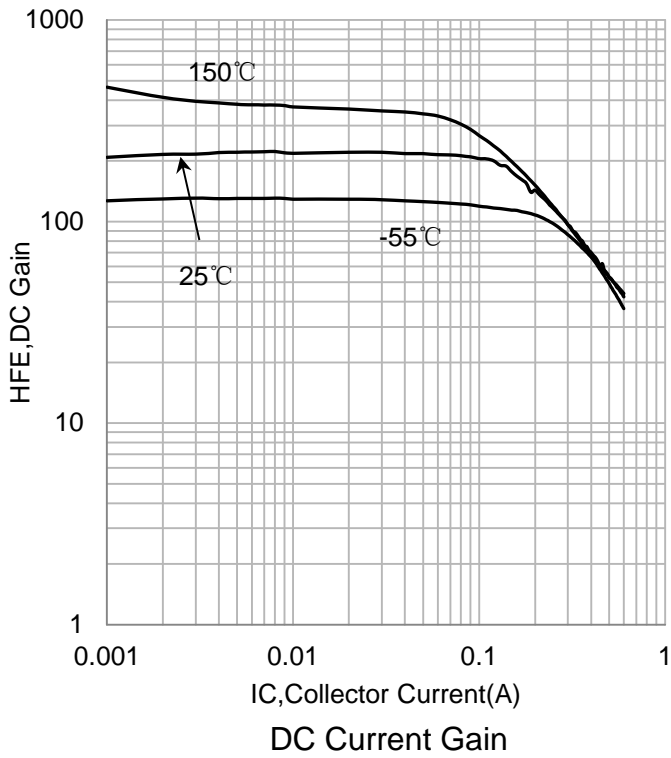
SWITCHING CHARACTERISTICS

| | | | | | | |
|--------------|--|----|---|---|-----|----|
| Delay Time | (VCC = 30 V, VEB=2.0V, IC = 150 mA, IB1 = 15 mA) | td | - | - | 15 | ns |
| Rise Time | | tr | - | - | 20 | |
| Storage Time | (VCC = 30 V, IC =150 mA, IB1 = IB2 =15 mA) | ts | - | - | 225 | |
| Fall Time | | tf | - | - | 30 | |

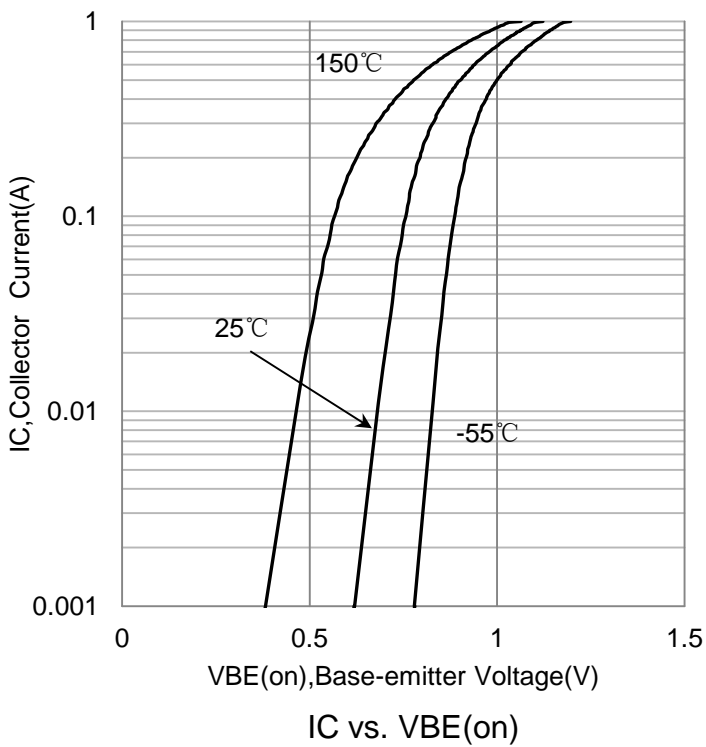
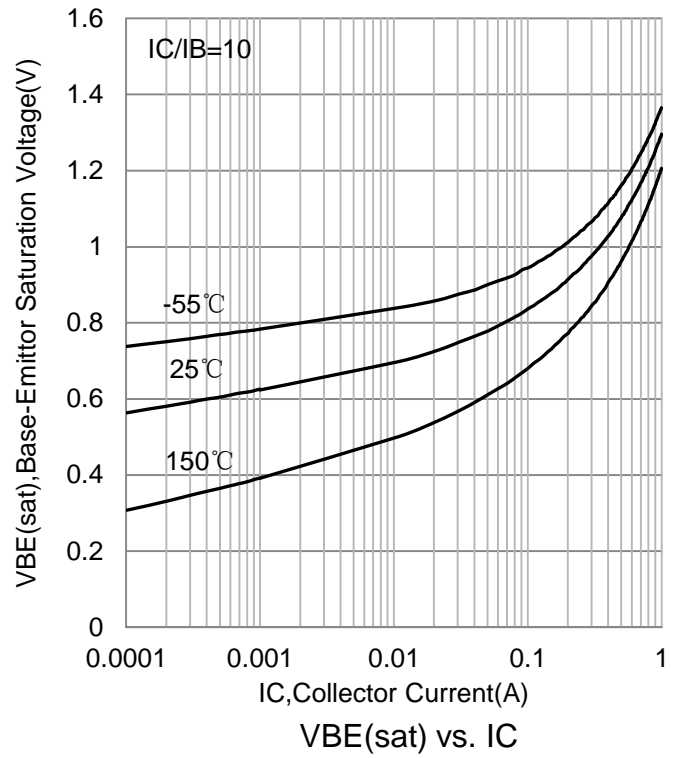
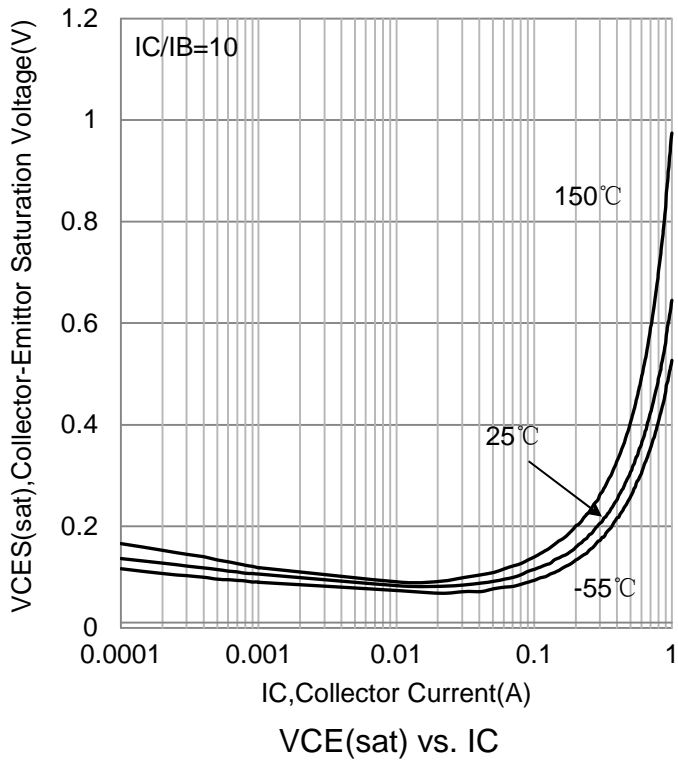
2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

SWITCHING TIME EQUIVALENT TEST CIRCUITS


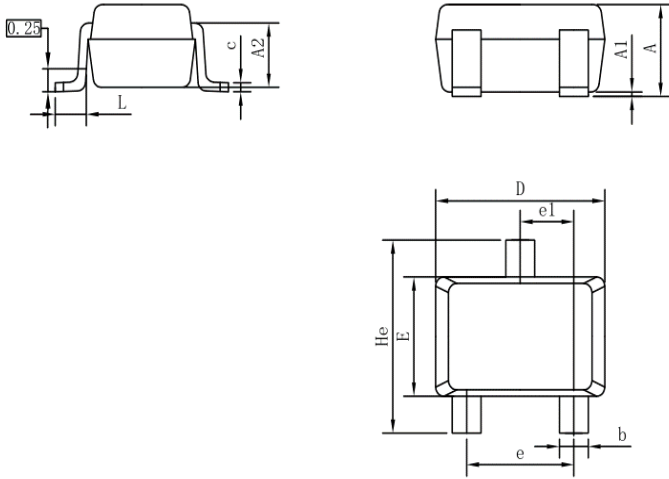
6.ELECTRICAL CHARACTERISTICS CURVES



6.ELECTRICAL CHARACTERISTICS CURVES(Con.)

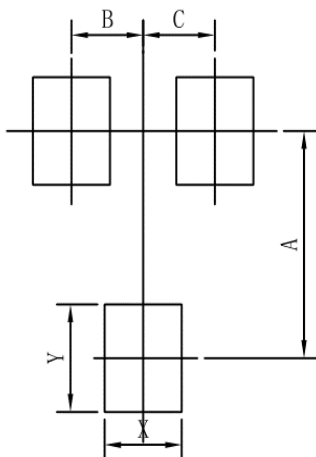


7. OUTLINE AND DIMENSIONS



| SC70 | | | |
|---------------------|----------|------|------|
| DIM | MIN | NOR | MAX |
| A | 0.80 | 0.95 | 1.00 |
| A1 | 0.00 | 0.05 | 0.10 |
| A2 | 0.7 REF | | |
| b | 0.30 | 0.35 | 0.40 |
| c | 0.10 | 0.15 | 0.25 |
| D | 1.80 | 2.05 | 2.20 |
| E | 1.15 | 1.30 | 1.35 |
| e | 1.20 | 1.30 | 1.40 |
| e1 | 0.65 BSC | | |
| L | 0.20 | 0.35 | 0.56 |
| He | 2.00 | 2.10 | 2.40 |
| ALL Dimension in mm | | | |

8. SOLDERING FOOTPRINT



| SC70 | |
|------|------|
| DIM | MIN |
| A | 1.90 |
| B | 0.65 |
| C | 0.65 |
| X | 0.70 |
| Y | 0.90 |

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Bipolar Transistors - BJT category](#):

Click to view products by [Leshan manufacturer](#):

Other Similar products are found below :

[619691C](#) [MCH4017-TL-H](#) [MMBT-2369-TR](#) [BC546/116](#) [BC557/116](#) [BSW67A](#) [NJVMJD148T4G](#) [NTE123AP-10](#) [NTE153MCP](#) [NTE16](#)
[NTE195A](#) [NTE92](#) [2N4401-A](#) [2N6728](#) [2SA1419T-TD-H](#) [2SA2126-E](#) [2SB1204S-TL-E](#) [2SC2712S-GR,LF](#) [SP000011176](#) [2N2907A](#) [2N3904-](#)
[NS](#) [2N5769](#) [2SC2412KT146S](#) [CPH6501-TL-E](#) [MCH4021-TL-E](#) [MJE340](#) [Jantx2N5416](#) [US6T6TR](#) [NJL0281DG](#) [732314D](#) [CPH3121-TL-E](#)
[CPH6021-TL-H](#) [873787E](#) [IMZ2AT108](#) [MMST8098T146](#) [UMX21NTR](#) [MCH6102-TL-E](#) [NJL0302DG](#) [30A02MH-TL-E](#) [NTE13](#) [NTE26](#)
[NTE282](#) [NTE323](#) [NTE350](#) [NTE81](#) [STX83003-AP](#) [JANTX2N2920L](#) [JANSR2N2222AUB](#) [CMLT3946EG TR](#) [2SA1371D-AE](#)