# PRODUCT DATA

## Micro International, Inc

PART NUMBER

## LDTBFW30 and LDTBFW30T

Micro-LID NPN Transistor

Micro International, Inc.
179-204 Belle Forrest Circle
Nashville, TN 37221

Tel: 615-662-1200 Fax 615-662-1226

www.microlid.com sales@microlid.com

# Micro-LID Transistors
# LDTBFW30 and LDTBFW30T

## Description:

The LDTBFW30 (untinned) and LDTBFW30T (tinned) are NPN silicon 1.6 GHz wideband transistors in very small, rugged, surface mount, 4-post ceramic packages (Micro International manufactured package p/n 4-075-1). The LDTBFW30 and LDTBFW30T meet the general specifications of the BFW30 transistor. The 4-075-1 Micro-LID package is a 4-post, leadless ceramic carrier which can be provided with gold metallized or pre-tinned lands, and is approved for military, medical implant, sensor, and high reliability applications. The LDTBFW30 and LDTBFW30T can be provided with special feature options such as additional temperature cycling, screening, and matching Hfe selection.

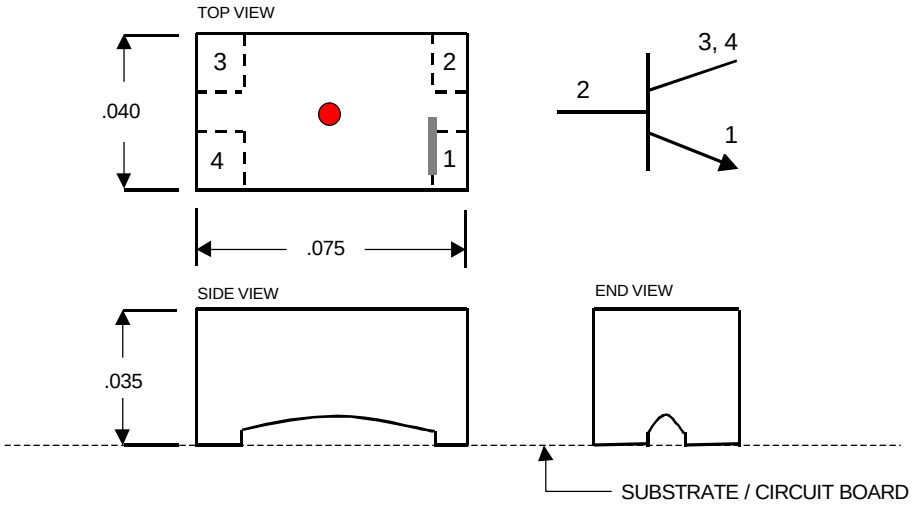
## Maximum Ratings:

| Parameter | Symbol | Rating |
|---|---|---|
| Collector-Base Voltage | Vcbo | 20 V |
| Collector-Emitter Voltage | Vceo | 10 V |
| Emitter-Base Voltage | Vebo | 2.5 V |
| Collector Current | Ic | 50 mA |
| Total Dissipation | Pt | 350 mW |
| Operating Junction Temperature | Tj | 150°C |
| Storage Temperature | Tstg | -65°C to 150°C |
| Operating Temperature | Toper | -55°C to 125°C |

www.microlid.com sales@microlid.com

# Micro-LID Transistors
# LDTBFW30 and LDTBFW30T

## Outline / Schematic:




## Dimensions / Marking:

| | | | |
|---|---|---|---|
| Length | .075″ ± .003″ | Post 1 (Emitter) | .015″ x .010″ typ |
| Width | .040″ ± .003″ | Post 2 (Base) | .015″ x .010″ typ |
| Height | .035″ ± .003″ | Post 3,4 (Collector) | .015″ x .012″ typ |

Marking on back of package : Gray Stripe over Emitter and Red Dot in Center
*(post down configuration)*

## Standard In-Process Screening Requirements:

- Semiconductor die and Micro-LID package visual inspection
- Wire pull test
- 24 hour stabilization bake at 150°C
- 10 temperature cycles from –55°C to 125°C
- 100% electrical test of dc characteristics at 25°C
- Final visual inspection

www.microlid.com sales@microlid.com

# Micro-LID Transistors
# LDTBFW30 and LDTBFW30T

## Electrical Characteristics (25°C Ambient)

| Parameter | Symbol | Min | Typ | Max | Units |
|---|---|---|---|---|---|
| Collector-Base Breakdown<br>Ic = 100 uA, Ie = 0 | BVcbo | 20 | -- | -- | V |
| Collector-Emitter Breakdown*<br>Ib = 0, Ic = 10 mA | BVceo | 10 | -- | -- | V |
| Emitter-Base Breakdown<br>Ic = 0, Ie = 100 uA | BVebo | 2.5 | -- | -- | V |
| Collector-Base Cutoff Current<br>Vcb = 10 V | Icbo | -- | -- | 50 | nA |
| DC Forward Current Gain*<br>Ic = 25 mA, Vce = 5 V<br>Ic = 50 mA, Vce = 5 V | Hfe | <br>25<br>25 | <br>--<br>-- | <br>--<br>-- | |
| Collector Capacitance<br>Vcb = 5 V, Ie = 0<br>f = 1 MHz | Cobo | -- | -- | 1.5 | pF |
| Gain Bandwidth Product<br>Ic = 50 mA, Vce = 5 V<br>f = 500 MHz | fT | -- | 1.6 | -- | GHz |
| Noise Figure<br>Ic = 2 mA, Vce = 5 V<br>f = 500 MHz | NF | -- | -- | 5 | dB |

* Pulse test, pulse width $\leq$ 300 usec, duty cycle $\leq$ 2%