



PART NO:

FBNL177

DRAWING NO:

FBNL177

PAGE:

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SPECIFICATION/SOURCE CONTROL DOCUMENT

DESCRIPTION: **TRANSISTOR 2A 50V NPN TO-39**

SPECIFICATION CONTROL

SOURCE CONTROL

CERTIFICATION OF CONFORMANCE REQUIRED

SAFETY AGENCY CONTROL

UL___

CSA___

VDE/TUV___

MANUFACTURER

MANUFACTURER PART NUMBER

FIRST:

ST MICRO

2N5321

SECOND:

MICRO COMMERCIAL COMPONENTS

2N5321

THIRD:

UNIT OF MEASURE: EACH

PACKAGING: BULK

| REV | DATE | ECO | ENG | ENG | SFTY | Q.A. | DESCRIPTION |
|-----|----------|--------|-----|-----|------|------|-------------|
| E | 6/2/95 | B14033 | | | | | |
| F | 06/10/04 | 90848 | ED | DG | LD | PK | Add MCC |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

ENGINEERING NOTES:

LAMBDA CONFIDENTIAL

M.C.C.

Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

2N5321

Features

- 10 Watts Power Dissipation.
- Metal can case.

NPN Silicon Switching Transistor

Maximum Ratings

| Symbol | Rating | Rating | Unit |
|------------------|--------------------------------|-------------|------|
| V _{CEO} | Collector-Emitter Voltage | 50 | V |
| V _{CBO} | Collector-Base Voltage | 75 | V |
| V _{EB0} | Emitter-Base Voltage | 5.0 | V |
| I _C | Collector Current, Continuous | 2.0 | A |
| I _B | Base Current | 1.0 | A |
| T _J | Operating Junction Temperature | -55 to +150 | °C |
| T _{STG} | Storage Temperature | -55 to +150 | °C |

Thermal Characteristics

| Symbol | Rating | Max | Unit |
|-----------------|---|-------------|------------|
| P _D | Total Device Dissipation Derate above 25°C | 10 0.057 | W mW/°C |
| R _{JC} | Thermal Resistance, Junction to Case | 17.5 | °C/W |

Electrical Characteristics @ 25°C Unless Otherwise Specified

| Symbol | Parameter | Min | Max | Units |
|--------|-----------|-----|-----|-------|
|--------|-----------|-----|-----|-------|

OFF CHARACTERISTICS

| | | | | |
|----------------------|---|-----|------------|-----|
| V _{(BR)CEO} | Collector-Emitter Breakdown Voltage (I _C =100mA, I _B =0) | 50 | --- | Vdc |
| I _{CEX} | Collector Cutoff Current (V _{CE} =75Vdc, V _{EB(off)} =1.5Vdc) (V _{CE} =45Vdc, V _{EB(off)} =1.5Vdc, T _C =150°C) | --- | 0.1 5.0 | mA |
| I _{EBO} | Emitter Cutoff Current (V _{EB} =5.0Vdc, I _C =0) | --- | 0.1 | mA |

ON CHARACTERISTICS

| | | | | |
|----------------------|--|-----|-----|-----|
| h _{FE} | DC Current Gain ⁽¹⁾ (V _{CE} =4.0Vdc, I _C =500mA)* | 40 | 250 | --- |
| V _{CE(sat)} | Collector-Emitter Saturation Voltage ⁽¹⁾ (I _C =500mA, I _B =50mA) | --- | 0.8 | Vdc |
| V _{BE(on)} | Base-Emitter On Voltage (I _C =500mA, V _{CE} =4.0Vdc) | --- | 1.4 | Vdc |

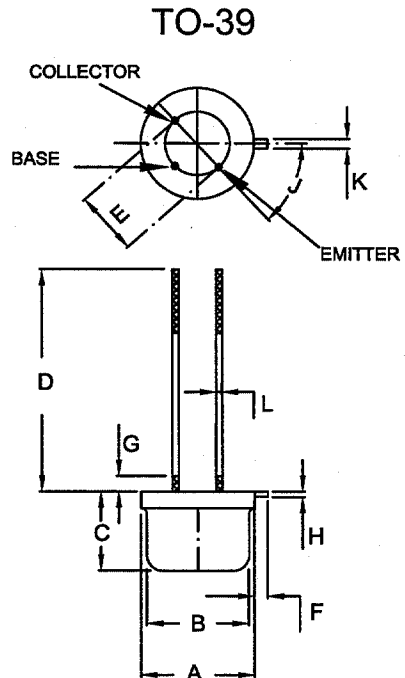
SMALL-SIGNAL CHARACTERISTICS

| | | | | |
|-----------------|---|-----|-----|-----|
| h _{fe} | Small-signal current gain (V _{CE} =4.0Vdc, I _C =50mA, f=10MHz) | 5.0 | --- | --- |
|-----------------|---|-----|-----|-----|

SWITCHING CHARACTERISTICS

| | | | | |
|------------------|--|-----|-----|----|
| t _{on} | Turn-On Time (V _{CC} =30Vdc, I _C =500mA, I _{B1} =50mA) | --- | 80 | ns |
| t _{off} | Turn-Off Time (V _{CC} =30Vdc, I _C =500mA, I _{B1} =I _{B2} =50mA) | --- | 800 | ns |

Note 1: Pulse Width<300us, Duty Cycle<2.0%



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | .335 | .370 | 8.509 | 7.62 | Φ |
| B | .305 | .335 | 7.747 | 8.509 | Φ |
| C | .240 | .260 | 6.096 | 6.604 | |
| D | .50 | .75 | 12.7 | 19.05 | |
| E | .200 | | 5.08 | | ΦTYP |
| F | .029 | .045 | 7.366 | 11.43 | |
| G | ---- | .050 | ---- | 1.27 | |
| H | .009 | .031 | 0.229 | 7.874 | |
| J | 44° | 46° | 44° | 46° | |
| K | .028 | .034 | 0.711 | 0.864 | |
| L | .016 | .021 | 0.406 | 0.533 | |

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