

BC300 BC301 BC302

NPN SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

CASE TO-39



C E B

THE BC300, BC301, BC302 ARE NPN SILICON PLANAR EPITAXIAL TRANSISTORS RECOMMENDED FOR AF DRIVERS AND OUTPUTS, AS WELL AS FOR SWITCHING APPLICATIONS UP TO 1 AMPERE. THEY ARE COMPLEMENTARY TO THE PNP TYPE BC303 AND BC304.

ABSOLUTE MAXIMUM RATINGS

| | | BC300 | BC301 | BC302 |
|---|-----------------------------------|-------|--------------|-------|
| Collector-Base Voltage | V _{CB0} | 120V | 90V | 60V |
| Collector-Emitter Voltage | V _{CE0} | 80V | 60V | 45V |
| Emitter-Base Voltage | V _{EB0} | | 7V | |
| Collector Current | I _C | | 1A | |
| Total Power Dissipation (T _C ≤ 25°C) | P _{tot} | | 6W | |
| | | | 850mW | |
| Operating Junction & Storage Temperature | T _j , T _{stg} | | -55 to 175°C | |

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITIONS |
|--------------------------------------|------------------------|-----|------|-----|------|--|
| Collector-Emitter Breakdown Voltage | LV _{CEO} * | | | | | I _C =100mA I _B =0 |
| BC300 | | 80 | | | V | |
| BC301 | | 60 | | | V | |
| BC302 | | 45 | | | V | |
| Collector-Emitter Breakdown Voltage | LV _{CEV} * | | | | | I _C =100mA V _{EB} =1.5V |
| BC300 only | | 120 | | | V | |
| BC301 only | | 90 | | | V | |
| Collector Cutoff Current | I _{CBO} | | | 20 | nA | V _{CB} =60V I _E =0 |
| Emitter Cutoff Current | I _{EBO} | | | 20 | nA | V _{EB} =7V I _C =0 |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} * | | 0.1 | 0.5 | V | I _C =150mA I _B =15mA |
| Base-Emitter Voltage | V _{BE} * | | 0.78 | | V | I _C =150mA V _{CE} =10V |
| D.C. Current Gain | H _{FE} * | 20 | | | | I _C =0.1mA V _{CE} =10V |
| | | 40 | | 240 | | I _C =150mA V _{CE} =10V |
| | | 20 | | | | I _C =500mA V _{CE} =10V |
| D.C. Current Gain | H _{FE} * | 40 | | 80 | | I _C =150mA V _{CE} =10V |
| Group 4 | | 70 | | 140 | | |
| Group 5 | | 120 | | 240 | | |
| Group 6 | | | | | | |
| Current Gain-Bandwidth Product | f _T | | 120 | | MHz | I _C =10mA V _{CE} =10V |
| Collector-Base Capacitance | C _{ob} | | 10 | | pF | V _{CB} =10V I _E =0 f=1MHz |

* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%

MICRO ELECTRONICS LTD.

38 HUNG TO ROAD, KWUN TONG, HONG KONG. TELEX 43510
 KWUN TONG P. O. BOX 69477 CABLE ADDRESS "MICROTRON"
 TELEPHONE:- 3-430181-6 3-893363 3-892423
 FAX: 3-410321

BC300 . BC301 . BC302
TYPICAL CHARACTERISTICS

