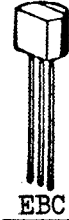


BC 537 · BC 538

NPN SILICON AF MEDIUM POWER TRANSISTORS

THE BC537, BC538 ARE NPN SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF DRIVER AND OUTPUT STAGES, AS WELL AS FOR UNIVERSAL APPLICATIONS. THE BC537, BC538 ARE COMPLEMENTARY TO THE PNP TYPE BC527, BC528 RESPECTIVELY.

CASE TO-92A



ABSOLUTE MAXIMUM RATINGS

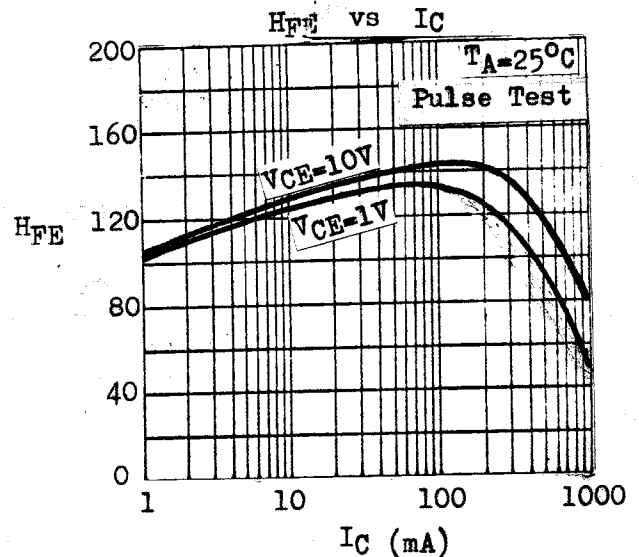
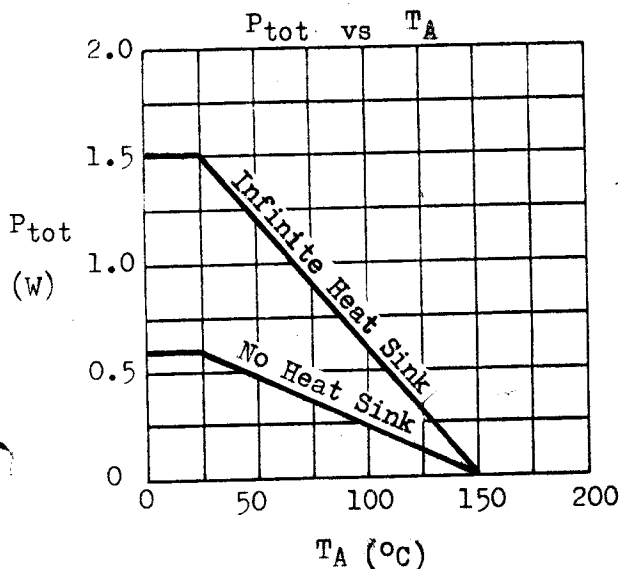
Collector-Base Voltage
 Collector-Emitter Voltage
 Emitter-Base Voltage
 Collector Current
 Collector Peak Current ($t \leq 10\text{ms}$)
 Total Power Dissipation (@ $T_C \leq 25^\circ\text{C}$)
 (@ $T_A \leq 25^\circ\text{C}$)
 Operating Junction & Storage Temperature

| | BC537 | BC538 |
|----------|--------------|-------|
| VCBO | 60V | 80V |
| VCEO | 60V | 80V |
| VEBO | | 6V |
| IC | | 1A |
| ICM | | 1.5A |
| Ptot | | 1.5W |
| | | 625mW |
| Tj, Tstg | -55 to 150°C | |

THERMAL RESISTANCE

Junction to Case
 Junction to Ambient

| | |
|---------------|--------------|
| θ_{jc} | 83°C/W max. |
| θ_{ja} | 200°C/W max. |



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 3-893369, 3-892423
 FAX: 3-410321

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | BC537 | | BC538 | | UNIT | TEST CONDITIONS | |
|--------------------------------------|-----------------|------------|------------|-------|-----|--|--|---------------------------------------|
| | | MIN | MAX | MIN | MAX | | | |
| Collector-Base Breakdown Voltage | BV_{CBO} | 60 | | 80 | | V | $I_C=0.1\text{mA}$ $I_E=0$ | |
| Collector-Emitter Breakdown Voltage | $LV_{CEO} *$ | 60 | | 80 | | V | $I_C=10\text{mA}$ $I_B=0$ | |
| Emitter-Base Breakdown Voltage | BV_{EBO} | 6 | | 6 | | V | $I_E=0.01\text{mA}$ $I_C=0$ | |
| Collector Cutoff Current | I_{CBO} | | 100 | | | nA | $V_{CB}=40\text{V}$ $I_E=0$ | |
| | | | | | 100 | nA | $V_{CB}=60\text{V}$ $I_E=0$ | |
| Emitter Cutoff Current | I_{EBO} | | 100 | | 100 | nA | $V_{EB}=4\text{V}$ $I_C=0$ | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)} *$ | | 0.7 | | 0.7 | V | $I_C=500\text{mA}$ $I_B=50\text{mA}$ | |
| | | | 1.2 | | 1.5 | V | $I_C=1\text{A}$ $I_B=0.1\text{A}$ | |
| Base-Emitter Saturation Voltage | $V_{BE(sat)} *$ | | 1.3 | | 1.3 | V | $I_C=150\text{mA}$ $I_B=15\text{mA}$ | |
| D.C. Current Gain | $H_{FE} *$ | 40 | 400 | 40 | 400 | | $I_C=100\text{mA}$ $V_{CE}=1\text{V}$ | |
| | | Group 6 | 40 | 100 | 40 | 100 | | |
| | | Group 10 | 63 | 160 | 63 | 160 | | |
| | | Group 16 | 100 | 250 | 100 | 250 | | |
| | | Group 25 | 160 | 400 | 160 | 400 | | |
| | | All Groups | $H_{FE} *$ | 50 | | 50 | | $I_C=10\text{mA}$ $V_{CE}=10\text{V}$ |
| | | | 50 | | 50 | | $I_C=150\text{mA}$ $V_{CE}=10\text{V}$ | |
| | | 50 | | 50 | | $I_C=500\text{mA}$ $V_{CE}=10\text{V}$ | | |
| | | 15 | | 15 | | $I_C=1\text{A}$ $V_{CE}=10\text{V}$ | | |
| Current Gain-Bandwidth Product | f_T | 100 | | 100 | | MHz | $I_C=50\text{mA}$ $V_{CE}=10\text{V}$ | |
| Collector-Base Capacitance | C_{ob} | | 15 | | 15 | pF | $V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$ | |

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

