

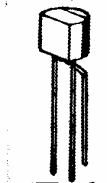


BC 413 BC 414 BC 415 BC 416

COMPLEMENTARY SILICON AF LOW NOISE SMALL SIGNAL TRANSISTORS

CASE TO-92F

THE BC413, BC414, BC415, BC416 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR AF LOW NOISE PREAMPLIFIER APPLICATIONS, THE BC413, BC414 ARE NPN AND ARE COMPLEMENTARY TO THE PNP BC415, BC416 RESPECTIVELY.



ABSOLUTE MAXIMUM RATINGS

For p-n-p devices, voltage and current values are negative.

| | | BC413 (NPN) | BC414 (NPN) | BC415 (PNP) | BC416 (PNP) |
|-------------------------------------------------|-----------------------------------|----------------------------|----------------|----------------|----------------|
| Collector-Base Voltage | V _{CB0} | 45V | 50V | 45V | 50V |
| Collector-Emitter Voltage | V _{CE0} | 30V | 45V | 35V | 45V |
| Emitter-Base Voltage | V _{EB0} | | | 5V | |
| Collector Current | I _C | | 100mA | | |
| Total Power Dissipation @ T _A ≤ 25°C | P _{tot} | | 300mW | | |
| | | derate 2.4mW/°C above 25°C | | | |
| Operating Junction & Storage Temperature | T _j , T _{stg} | -55 to 150°C | | | |

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

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITIONS |
|--------------------------------------|----------------------|------|------|-----|------|-----------------------------------------------------------------|
| Collector-Base Breakdown Voltage | BV _{CB0} | | | | | I _C =10μA I _E =0 |
| BC413 | | 45 | | | V | |
| BC414 | | 50 | | | V | |
| BC415 | | 45 | | | V | |
| BC416 | | 50 | | | V | |
| Collector-Emitter Breakdown Voltage | LV _{CE0} | | | | | I _C =10mA (Pulsed) I _B =0 |
| BC413 | | 30 | | | V | |
| BC414 | | 45 | | | V | |
| BC415 | | 35 | | | V | |
| BC416 | | 45 | | | V | |
| Emitter-Base Breakdown Voltage | BV _{EB0} | 5 | | | V | I _E =10μA I _C =0 |
| Collector Cutoff Current | I _{CBO} | | | 15 | nA | V _{CB} =30V I _E =0 |
| | | | | 5 | μA | V _{CB} =30V I _E =0 T _A =150°C |
| Emitter Cutoff Current | I _{EB0} | | | 15 | nA | V _{EB} =4V I _C =0 |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} | 0.08 | 0.25 | | V | I _C =10mA I _B =0.5mA |
| | | 0.25 | 0.6 | | V | I _C =100mA I _B =5mA (Pulsed) |

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 3-822222 3-822423
 FAX: 3-410321