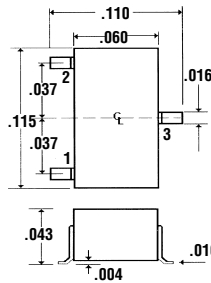
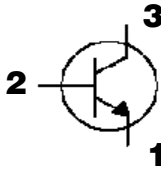
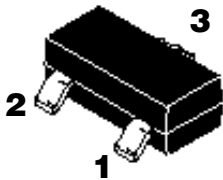




FMBT1815



Maximum Ratings

| Ratings | Symbol | Value | Units |
|---|----------------|------------|------------------|
| Collector - Emitter Voltage | V_{CEO} | 50 | V |
| Collector - Base Voltage | V_{CBO} | 60 | V |
| Emitter - Base Voltage | V_{EBO} | 5.0 | V |
| Collector Current (Continuous) | I_C | 150 | mA |
| Total Device Dissipation FR-5 Board (Note1) $T_A = 25^\circ\text{C}$ | P_D | 125 | mW |
| Junction and Storage Temperature | T_J, T_{STG} | -55 to 150 | $^\circ\text{C}$ |

Electrical Characteristics @ 25°C

| Characteristic | Symbol | Min | Max | Unit |
|--|---------------|-----------|------------|---------------|
| Collector - Emitter Breakdown Voltage ($I_C = 1.0\text{mA}$) | $V_{BR(CEO)}$ | 50 | --- | V |
| Collector - Base Breakdown Voltage ($I_C = 0.1\text{mA}$) | $V_{BR(CBO)}$ | 60 | --- | V |
| Emitter - Base Breakdown Voltage ($I_E = 0.01\text{mA}$) | $V_{BR(EBO)}$ | 5.0 | --- | V |
| Collector Cutoff Current ($V_{CB} = 60\text{V}$) | I_{CBO} | --- | 0.1 | μA |
| Emitter Cutoff Current ($V_{EB} = 5.0\text{V}$) | I_{EBO} | --- | 0.1 | μA |
| DC Current Gain ($I_C = 2.0\text{mA}, V_{CE} = 6.0\text{V}$)* ($I_C = 150\text{mA}, V_{CE} = 6.0\text{V}$) | H_{FE} | 120 25 | 600 --- | --- |
| Collector - Emitter Saturation Voltage ($I_C = 100\text{mA}, I_B = 10\text{mA}$) | $V_{CE(sat)}$ | --- | 0.25 | Vdc |
| Base - Emitter Saturation Voltage ($I_C = 100\text{mA}, I_B = 10\text{mA}$) | $V_{BE(sat)}$ | --- | 1.0 | Vdc |
| Current - Gain - Bandwidth Product ($I_C = 1.0\text{mA}, V_{CE} = 10\text{V}, f = 100\text{MHz}$) | f_T | 80 | --- | MHz |
| Output Capacitance ($V_{CB} = 10\text{V}, f = 1.0\text{MHz}$) | C_{ob} | --- | 3.5 | pF |

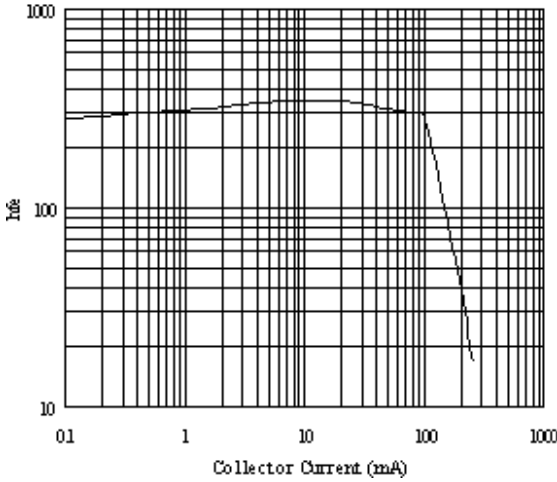
* Classification of h_{FE}

| Rank | C4Y | C4G | C4B |
|-------|---------|---------|---------|
| Range | 120-240 | 200-400 | 350-600 |

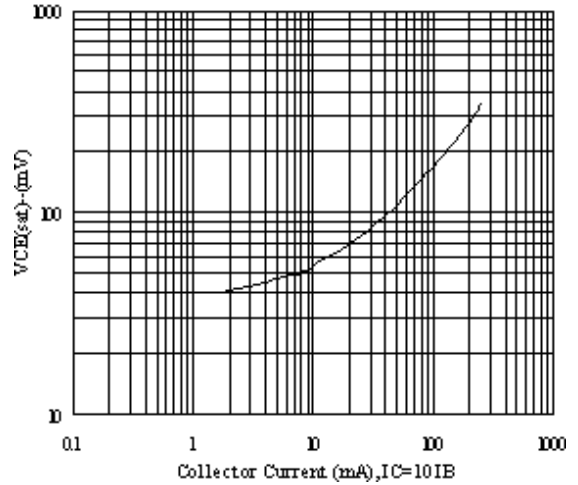


FMBT1815 NPN Epitaxial Planar Transistor

DC CURRENT GAIN VS . COLECTOR CURRENT



COLLECTOR-EMITTER SATURATION VOLTAGE VS . COLECTOR CURRENT



BASE-EMITTER SATURATION VOLTAGE VS .
COLLECTOR CURRENT

