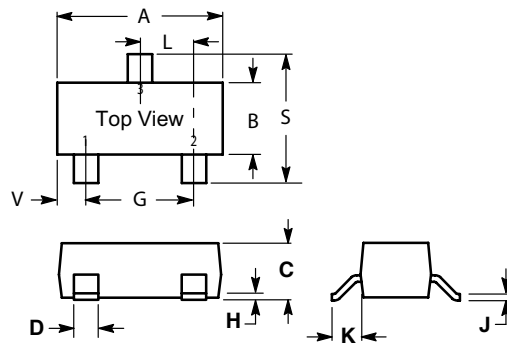
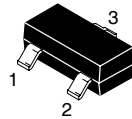
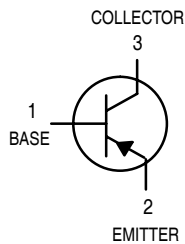


RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

## FEATURES

- Pb-free is available.
- Power dissipation & Collector current  
Pcm: 0.3W Icm: -0.3A
- High voltage V<sub>(BR)</sub>: -300V



| SOT-23              |       |       |
|---------------------|-------|-------|
| Dim                 | Min   | Max   |
| A                   | 2.800 | 3.040 |
| B                   | 1.200 | 1.400 |
| C                   | 0.890 | 1.110 |
| D                   | 0.370 | 0.500 |
| G                   | 1.780 | 2.040 |
| H                   | 0.013 | 0.100 |
| J                   | 0.085 | 0.177 |
| K                   | 0.450 | 0.600 |
| L                   | 0.890 | 1.020 |
| S                   | 2.100 | 2.500 |
| V                   | 0.450 | 0.600 |
| All Dimension in mm |       |       |

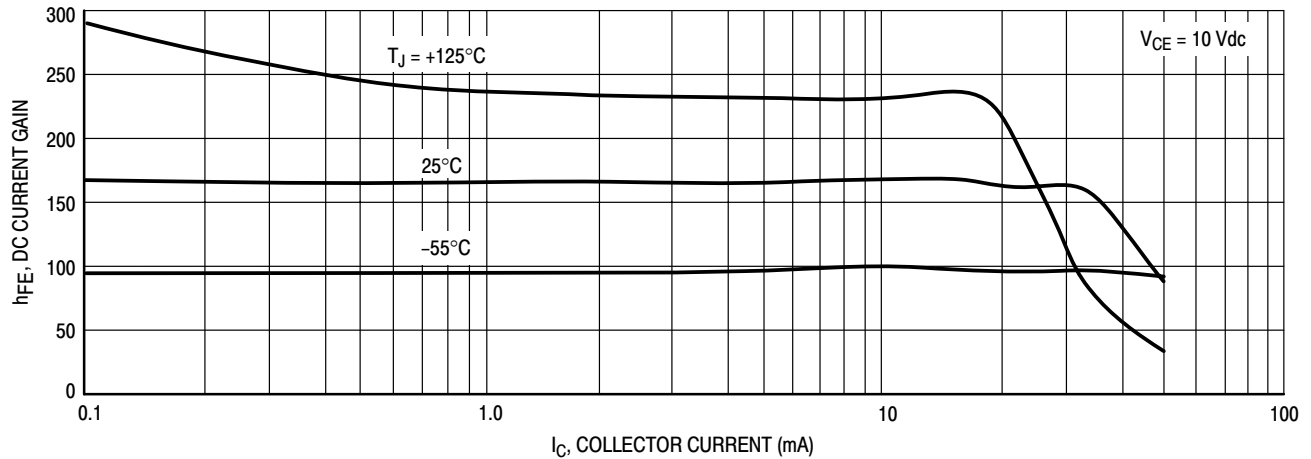
## ELECTRICAL CHARACTERISTICS Tamb=25 °C unless otherwise specified

| Parameter                            | Symbol               | Test conditions                                         | MIN  | MAX   | UNIT |
|--------------------------------------|----------------------|---------------------------------------------------------|------|-------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | I <sub>C</sub> = -100μA, I <sub>E</sub> =0              | -300 |       | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> = -1 mA, I <sub>B</sub> =0               | -300 |       | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | I <sub>E</sub> = -100μA, I <sub>C</sub> =0              | -5   |       | V    |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =-200 V, I <sub>E</sub> =0              |      | -0.25 | μ A  |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> = -5V, I <sub>C</sub> =0                |      | -0.1  | μ A  |
| DC current gain                      | H <sub>FE (1)</sub>  | V <sub>CE</sub> = -10V, I <sub>C</sub> = -1mA           | 60   |       |      |
|                                      | H <sub>FE (2)</sub>  | V <sub>CE</sub> = -10V, I <sub>C</sub> =-10mA           | 100  | 200   |      |
|                                      | H <sub>FE (3)</sub>  | V <sub>CE</sub> =-10V, I <sub>C</sub> =-30mA            | 60   |       |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =-20 mA, I <sub>B</sub> = -2mA           |      | -0.2  | V    |
| Base-emitter saturation voltage      | V <sub>BE(sat)</sub> | I <sub>C</sub> = -20 mA, I <sub>B</sub> =-2mA           |      | -0.9  | V    |
| Transition frequency                 | f <sub>T</sub>       | V <sub>CE</sub> =-20V, I <sub>C</sub> =-10mA<br>f=30MHz | 50   |       | MHz  |

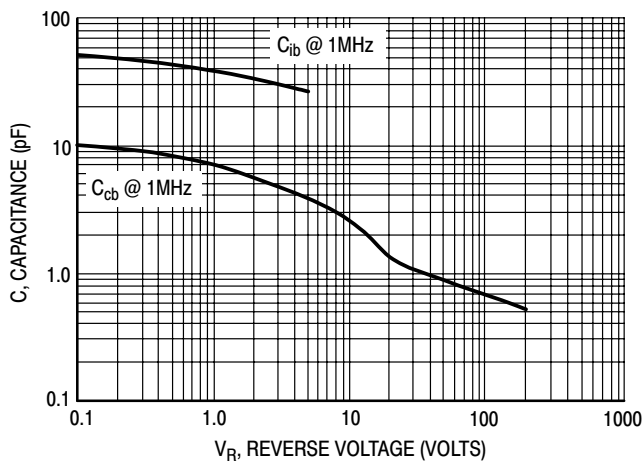
## DEVICE MARKING

MMBTA92=2D

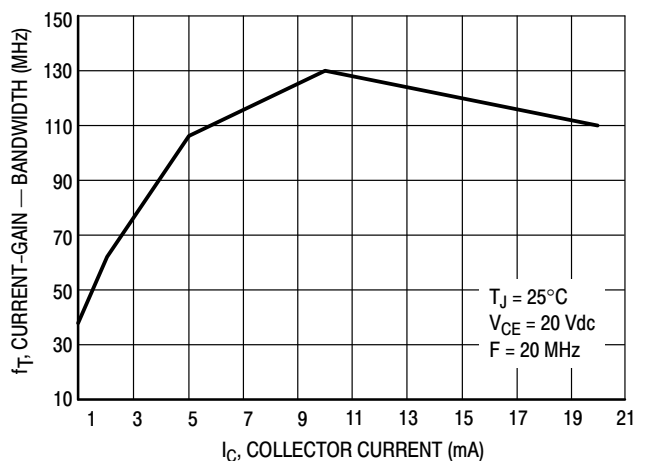
**MMBTA92**



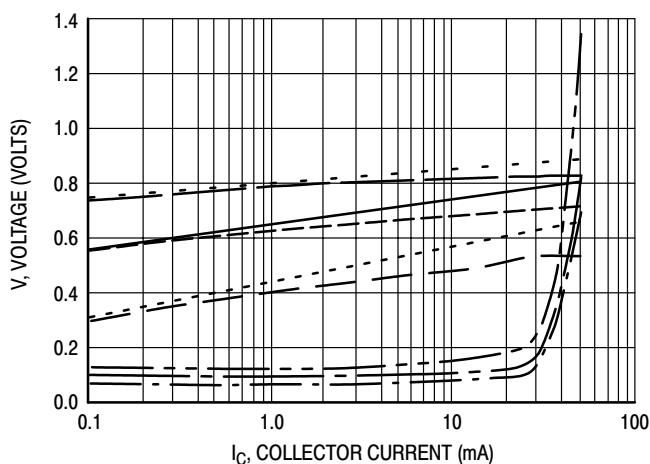
**Figure 1. DC Current Gain**



**Figure 2. Capacitance**



**Figure 3. Current-Gain - Bandwidth**



**Figure 4. "ON" Voltages**

-----  $V_{CE(sat)}$  @ 25°C,  $I_C/I_B = 10$   
 -----  $V_{CE(sat)}$  @ 125°C,  $I_C/I_B = 10$   
 -----  $V_{CE(sat)}$  @ -55°C,  $I_C/I_B = 10$   
 -----  $V_{BE(sat)}$  @ 25°C,  $I_C/I_B = 10$   
 -----  $V_{BE(sat)}$  @ 125°C,  $I_C/I_B = 10$   
 -----  $V_{BE(sat)}$  @ -55°C,  $I_C/I_B = 10$   
 -----  $V_{BE(on)}$  @ 25°C,  $V_{CE} = 10$  V  
 -----  $V_{BE(on)}$  @ 125°C,  $V_{CE} = 10$  V  
 -----  $V_{BE(on)}$  @ -55°C,  $V_{CE} = 10$  V