## Electrical Characteristics @$T_A$ = 25°C unless otherwise specified

| Characteristic | | Symbol | Min | Typ | Max | Unit | Test Condition |
|---|---|---|---|---|---|---|---|
| Input Voltage | | $V_{I(off)}$ | -0.5 | -1.1 | — | V | $V_{CC}$ = 5V, $I_O$ = 100μA |
| | | $V_{I(on)}$ | — | -1.9 | -3 | V | $V_O$ = 0.3V, $I_O$ = 20mA, DDTA123EUA<br>$V_O$ = 0.3V, $I_O$ = 20mA, DDTA143EUA<br>$V_O$ = 0.3V, $I_O$ = 10mA, DDTA114EUA<br>$V_O$ = 0.3V, $I_O$ = 5mA, DDTA124EUA<br>$V_O$ = 0.3V, $I_O$ = 2mA, DDTA144EUA<br>$V_O$ = 0.3V, $I_O$ = 1mA, DDTA115EUA |
| Output Voltage | | $V_{O(on)}$ | — | -0.1 | -0.3 | V | $I_O/I_I$ =10mA/0.5mA, DDTA123EUA<br>$I_O/I_I$ =10mA/0.5mA, DDTA143EUA<br>$I_O/I_I$ =10mA/0.5mA, DDTA114EUA<br>$I_O/I_I$ =10mA/0.5mA, DDTA124EUA<br>$I_O/I_I$ =10mA/0.5mA, DDTA144EUA<br>$I_O/I_I$ =5mA/0.25mA, DDTA115EUA |
| Input Current | DDTA123EUA<br>DDTA143EUA<br>DDTA114EUA<br>DDTA124EUA<br>DDTA144EUA<br>DDTA115EUA | $I_I$ | — | — | -3.8<br>-1.8<br>-.88<br>-.36<br>-.18<br>-.15 | mA | $V_I$ = -5V |
| Output Current | | $I_{O(off)}$ | — | — | 0.5 | μA | $V_{CC}$ = -50V, $V_I$ = 0V |
| DC Current Gain | DDTA123EUA<br>DDTA143EUA<br>DDTA114EUA<br>DDTA124EUA<br>DDTA144EUA<br>DDTA115EUA | $G_I$ | -20<br>-20<br>-30<br>-56<br>-68<br>-82 | — | — | — | $V_O$ = -5V, $I_O$ = -20mA<br>$V_O$ = -5V, $I_O$ = -10mA<br>$V_O$ = -5V, $I_O$ = -5mA<br>$V_O$ = -5V, $I_O$ = -5mA<br>$V_O$ = -5V, $I_O$ = -5mA<br>$V_O$ = -5V, $I_O$ = -5mA |
| Input Resistor ($R_1$) Tolerance | | $\Delta R_1$ | -30 | — | +30 | % | — |
| Resistance Ratio | | $R_2/R_1$ | 0.8 | 1 | 1.2 | — | — |
| Gain-Bandwidth Product* | | $f_T$ | — | 250 | — | MHz | $V_{CE}$ = -10V, $I_E$ = 5mA, f = 100MHz |

* Transistor - For Reference Only

## Typical Curves –DDTA143EUA

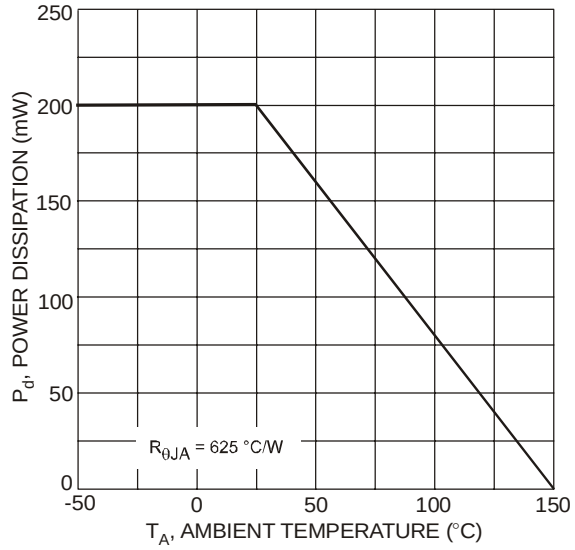


Fig. 1 Derating Curve

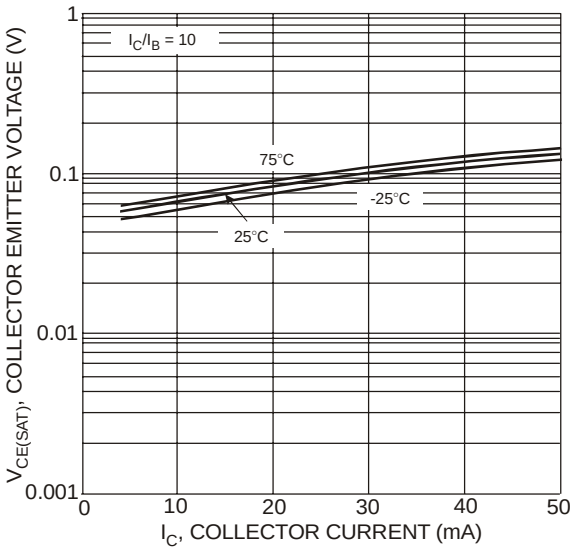


Fig. 2 $V_{CE(SAT)}$ vs. $I_C$

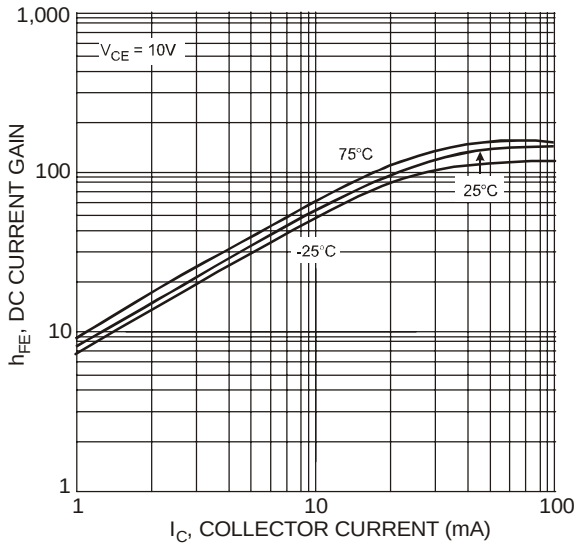


Fig. 3 DC Current Gain

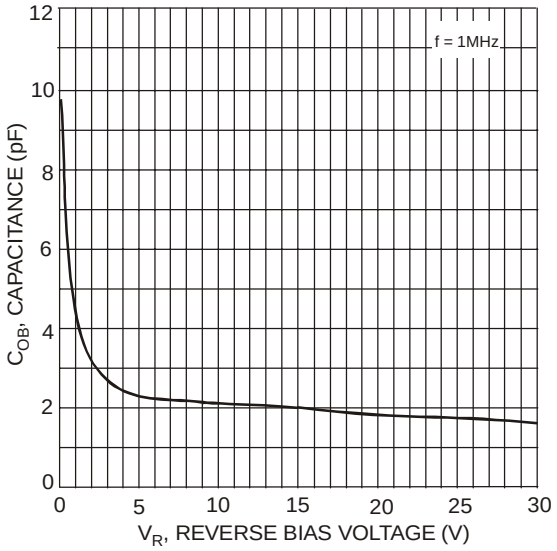


Fig. 4 Output Capacitance

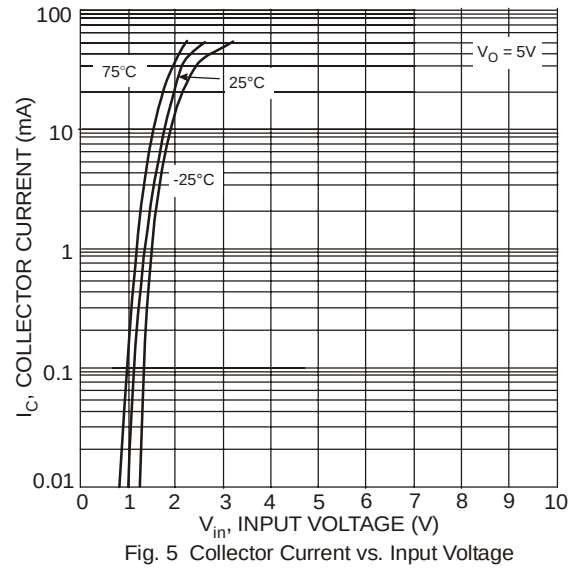


Fig. 5 Collector Current vs. Input Voltage

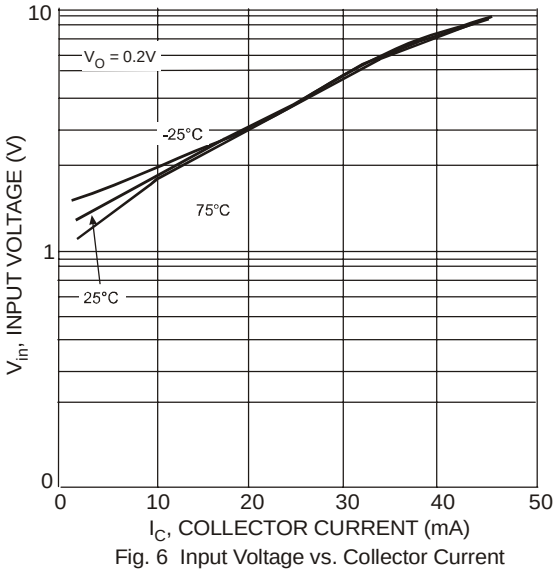


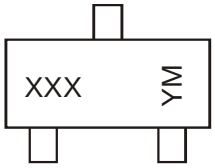
Fig. 6 Input Voltage vs. Collector Current

## Ordering Information (Note 4 & 5)

| Device | Packaging | Shipping |
|---|---|---|
| DDTA1xxEUA-7-F | SOT-323 | 3000/Tape & Reel |
| DDTA1xxEUA-13-F | SOT-323 | 10,000/Tape & Reel |

Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

## Marking Information




XXX = Product Type Marking Code, See Table on Page 1
YM = Date Code Marking
Y = Year ex: T = 2006
M = Month ex: 9 = September

Date Code Key

| Year | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|
| Code | T | U | V | W | X | Y | Z |

| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |