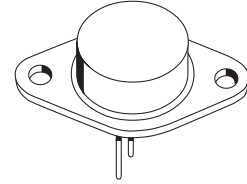


Power Transistors

TO-3 Case



| TYPE NO. | | I _C (A) MAX | P _D (W) | BV _{CBO} (V) MIN | BV _{CEO} (V) MIN | h _{FE} | | @ I _C (A) | V _{CE(SAT)} @ I _C | | f _T (MHz) MIN |
|----------|--------|------------------------------|-----------------------|---------------------------------|---------------------------------|-----------------|--------|-------------------------|---------------------------------------|-----|--------------------------------|
| NPN | PNP | | | | | MIN | MAX | | (V) MAX | (A) | |
| 2N3055 | MJ2955 | 15 | 115 | 100 | 60 | 5.0 | -- | 10 | 3.0 | 10 | 2.5 |
| 2N3442 | | 10 | 117 | 160 | 140 | 20 | 70 | 3.0 | 5.0 | 10 | -- |
| 2N3713 | 2N3789 | 10 | 150 | 80 | 60 | 15 | -- | 3.0 | 1.0 | 5.0 | 4.0 |
| 2N3714 | 2N3790 | 10 | 150 | 100 | 80 | 15 | -- | 3.0 | 1.0 | 5.0 | 4.0 |
| 2N3715 | 2N3791 | 10 | 150 | 80 | 60 | 30 | -- | 3.0 | 1.0 | 5.0 | 4.0 |
| 2N3716 | 2N3792 | 10 | 150 | 100 | 80 | 30 | -- | 3.0 | 1.0 | 5.0 | 4.0 |
| 2N3771 | | 30 | 150 | 50 | 40 | 15 | 60 | 15 | 2.0 | 15 | -- |
| 2N3772 | | 20 | 150 | 100 | 60 | 15 | 60 | 10 | 1.4 | 10 | -- |
| 2N3773 | 2N6609 | 16 | 150 | 160 | 140 | 15 | 60 | 8.0 | 4.0 | 16 | -- |
| 2N4913 | 2N4904 | 5.0 | 87.5 | 40 | 40 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N4914 | 2N4905 | 5.0 | 87.5 | 60 | 60 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N4915 | 2N4906 | 5.0 | 87.5 | 80 | 80 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N5067 | 2N4901 | 5.0 | 87.5 | 40 | 40 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N5068 | 2N4902 | 5.0 | 87.5 | 60 | 60 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N5069 | 2N4903 | 5.0 | 87.5 | 80 | 80 | 7.0 | -- | 5.0 | 1.5 | 5.0 | 4.0 |
| 2N5301 | 2N4398 | 30 | 200 | 40 | 40 | 15 | 60 | 15 | 4.0 | 30 | 4.0 |
| 2N5302 | 2N4399 | 30 | 200 | 60 | 60 | 15 | 60 | 15 | 4.0 | 30 | 4.0 |
| 2N5303 | 2N5745 | 20 | 200 | 80 | 80 | 15 | 60 | 10 | 2.0 | 20 | 2.0 |
| 2N5629 | 2N6029 | 16 | 200 | 100 | 100 | 25 | 100 | 8.0 | 2.0 | 16 | 1.0 |
| 2N5632 | 2N6229 | 10 | 150 | 100 | 100 | 25 | 100 | 5.0 | 2.0 | 10 | 1.0 |
| 2N5877 | 2N5875 | 10 | 150 | 60 | 60 | 4.0 | -- | 10 | 3.0 | 10 | 4.0 |
| 2N5878 | 2N5876 | 10 | 150 | 80 | 80 | 4.0 | -- | 10 | 3.0 | 10 | 4.0 |
| 2N5881 | 2N5879 | 15 | 160 | 60 | 60 | 4.0 | -- | 15 | 4.0 | 15 | 4.0 |
| 2N5882 | 2N5880 | 15 | 160 | 80 | 80 | 4.0 | -- | 15 | 4.0 | 15 | 4.0 |
| 2N5885 | 2N5883 | 25 | 200 | 60 | 60 | 20 | 100 | 10 | 4.0 | 25 | 4.0 |
| 2N5886 | 2N5884 | 25 | 200 | 80 | 80 | 20 | 100 | 10 | 4.0 | 25 | 4.0 |
| 2N6055 | 2N6053 | 8.0 | 100 | 60 | 60 | 750 | 18,000 | 4.0 | 3.0 | 8.0 | 4.0 |
| 2N6056 | 2N6054 | 8.0 | 100 | 80 | 80 | 750 | 18,000 | 4.0 | 3.0 | 8.0 | 4.0 |
| 2N6057 | 2N6050 | 12 | 150 | 60 | 60 | 750 | 18,000 | 6.0 | 3.0 | 12 | 4.0 |
| 2N6058 | 2N6051 | 12 | 150 | 80 | 80 | 750 | 18,000 | 6.0 | 3.0 | 12 | 4.0 |
| 2N6059 | 2N6052 | 12 | 150 | 100 | 100 | 750 | 18,000 | 6.0 | 3.0 | 12 | 4.0 |
| | 2N6246 | 15 | 125 | 70 | 60 | 20 | 100 | 7.0 | 2.5 | 15 | 4.0 |
| | 2N6247 | 15 | 125 | 90 | 80 | 20 | 100 | 6.0 | 3.5 | 15 | 4.0 |

Data Sheet Live

Shaded areas indicate Darlingtons.

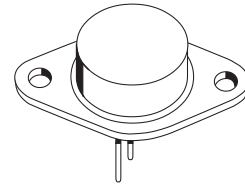
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(6-December 2004)

Power Transistors

TO-3 Case (Continued)



| TYPE NO. | | I_C | P_D | BV_{CBO} | BV_{CEO} | h_{FE} | | $@ I_C$ | $V_{CE(SAT)}$ | | f_T |
|----------|--------|------------|-------|------------|------------|----------|--------|---------|---------------|-----|--------------|
| NPN | PNP | (A) MAX | (W) | (V) MIN | (V) MIN | MIN | MAX | (A) | (V) MAX | (A) | (MHz) MIN |
| | 2N6248 | 10 | 125 | 110 | 100 | 20 | 100 | 5.0 | 3.5 | 10 | 4.0 |
| 2N6249 | | 10 | 175 | 300 | 200 | 10 | 50 | 10 | 1.5 | 10 | 2.5 |
| 2N6250 | | 10 | 175 | 375 | 275 | 8.0 | 50 | 10 | 1.5 | 10 | 2.5 |
| 2N6251 | | 10 | 175 | 450 | 350 | 6.0 | 50 | 10 | 1.5 | 10 | 2.5 |
| 2N6253 | | 15 | 115 | 55 | 45 | 20 | 70 | 3.0 | 4.0 | 15 | 4.0 |
| 2N6254 | | 15 | 150 | 100 | 80 | 20 | 70 | 5.0 | 4.0 | 15 | -- |
| 2N6282 | 2N6285 | 20 | 160 | 60 | 60 | 750 | 18,000 | 10 | 3.0 | 20 | 4.0 |
| 2N6283 | 2N6286 | 20 | 160 | 80 | 80 | 750 | 18,000 | 10 | 3.0 | 20 | 4.0 |
| 2N6284 | 2N6287 | 20 | 160 | 100 | 100 | 750 | 18,000 | 10 | 3.0 | 20 | 4.0 |
| 2N6306 | | 8.0 | 125 | 500 | 250 | 15 | 75 | 8.0 | 5.0 | 8.0 | 5.0 |
| 2N6307 | | 8.0 | 125 | 600 | 300 | 15 | 75 | 8.0 | 5.0 | 8.0 | 5.0 |
| 2N6308 | | 8.0 | 125 | 700 | 350 | 12 | 60 | 8.0 | 5.0 | 8.0 | 5.0 |
| 2N6371 | | 15 | 117 | 50 | 40 | 15 | 60 | 8.0 | 4.0 | 16 | 4.0 |
| 2N6383 | 2N6648 | 10 | 100 | 40 | 40 | 1,000 | 20,000 | 5.0 | 3.0 | 10 | 6.0 |
| 2N6384 | 2N6649 | 10 | 100 | 60 | 60 | 1,000 | 20,000 | 5.0 | 3.0 | 10 | 6.0 |
| | | 10 | 100 | 80 | 80 | 1,000 | 20,000 | 5.0 | 3.0 | 10 | 6.0 |
| | 2N6469 | 15 | 125 | 50 | 40 | 20 | 150 | 5.0 | 3.5 | 15 | 4.0 |
| 2N6470 | | 15 | 125 | 50 | 40 | 20 | 150 | 5.0 | 3.5 | 15 | 4.0 |
| 2N6471 | | 15 | 125 | 70 | 60 | 20 | 150 | 5.0 | 3.5 | 15 | 4.0 |
| 2N6472 | | 15 | 125 | 90 | 80 | 20 | 150 | 5.0 | 3.5 | 15 | 4.0 |
| 2N6542 | | 5.0 | 100 | 650 | 300 | 7.0 | 35 | 3.0 | 1.0 | 3.0 | 6.0 |
| 2N6543 | | 5.0 | 100 | 850 | 400 | 7.0 | 35 | 3.0 | 1.0 | 3.0 | 6.0 |
| 2N6544 | | 8.0 | 125 | 650 | 300 | 7.0 | 35 | 5.0 | 1.5 | 8.0 | 6.0 |
| 2N6545 | | 8.0 | 125 | 850 | 400 | 7.0 | 35 | 5.0 | 1.5 | 5.0 | 6.0 |
| 2N6546 | | 15 | 175 | 650 | 300 | 12 | 60 | 5.0 | 1.5 | 10 | 6.0 |
| 2N6547 | | 15 | 175 | 850 | 400 | 12 | 60 | 5.0 | 1.5 | 10 | 6.0 |
| 2N6569 | 2N6594 | 12 | 100 | 45 | 40 | 15 | 200 | 4.0 | 1.5 | 4.0 | 2.5 |
| 2N6576 | | 15 | 120 | 60 | 60 | 2,000 | 20,000 | 4.0 | 4.0 | 15 | 6.0 |
| 2N6577 | | 15 | 120 | 90 | 90 | 2,000 | 20,000 | 4.0 | 4.0 | 15 | 6.0 |
| 2N6578 | | 15 | 120 | 120 | 120 | 2,000 | 20,000 | 4.0 | 4.0 | 15 | 6.0 |
| 2N6671 | | 8.0 | 150 | 350 | 300 | 10 | 40 | -- | 2.0 | 8.0 | 15 |
| 2N6672 | | 8.0 | 150 | 400 | 350 | 10 | 40 | -- | 2.0 | 8.0 | 15 |
| 2N6673 | | 8.0 | 150 | 450 | 400 | 10 | 40 | -- | 2.0 | 8.0 | 15 |

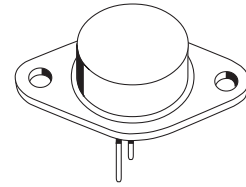
Shaded areas indicate Darlington.

(6-December 2004)

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Power Transistors

TO-3 Case (Continued)



| TYPE NO. | | I _C (A) MAX | P _D (W) | BV _{CBO} (V) MIN | BV _{CEO} (V) MIN | h _{FE} *TYP | | @ I _C (A) | V _{CE(SAT)} @ I _C | | f _T *TYP (MHz) MIN |
|----------|--------|------------------------------|-----------------------|---------------------------------|---------------------------------|-------------------------|--------|-------------------------|--|-----|--|
| NPN | PNP | | | | | MIN | MAX | | (V) MAX | (A) | |
| 2N6674 | | 15 | 175 | 350 | 300 | 8.0 | 20 | -- | 5.0 | 15 | 15 |
| 2N6675 | | 15 | 175 | 450 | 400 | 8.0 | 20 | -- | 5.0 | 15 | 15 |
| BDW51 | BDW52 | 15 | 125 | 45 | 45 | 20 | 150 | 5.0 | 3.0 | 10 | 3.0 |
| BDW51A | BDW52A | 15 | 125 | 60 | 60 | 20 | 150 | 5.0 | 3.0 | 10 | 3.0 |
| BDW51B | BDW52B | 15 | 125 | 80 | 80 | 20 | 150 | 5.0 | 3.0 | 10 | 3.0 |
| BDW51C | BDW52C | 15 | 125 | 100 | 100 | 20 | 150 | 5.0 | 3.0 | 10 | 3.0 |
| BDX85 | BDX86 | 10 | 100 | 45 | 45 | 750 | 18,000 | 4.0 | 4.0 | 8.0 | 10* |
| BDX85A | BDX86A | 10 | 100 | 60 | 60 | 750 | 18,000 | 4.0 | 4.0 | 8.0 | 10* |
| BDX85B | BDX86B | 10 | 100 | 80 | 80 | 750 | 18,000 | 4.0 | 4.0 | 8.0 | 10* |
| BDX85C | BDX86C | 10 | 100 | 100 | 100 | 750 | 18,000 | 4.0 | 4.0 | 8.0 | 10* |
| BDX87 | BDX88 | 12 | 120 | 40 | 40 | 750 | 18,000 | 6.0 | 3.0 | 12 | 20* |
| BDX87A | BDX88A | 12 | 120 | 60 | 60 | 750 | 18,000 | 6.0 | 3.0 | 12 | 20* |
| BDX87B | BDX88B | 12 | 120 | 80 | 80 | 750 | 18,000 | 6.0 | 3.0 | 12 | 20* |
| BDX87C | BDX88C | 12 | 120 | 100 | 100 | 750 | 18,000 | 6.0 | 3.0 | 12 | 20* |
| BU208 | | 8.0 | 150 | 1,500 | 700 | -- | -- | -- | 5.0 | 4.5 | 7.0* |
| BU208A | | 8.0 | 150 | 1,500 | 700 | -- | -- | -- | 1.0 | 4.5 | 7.0* |
| BUW34 | | 10 | 125 | 500 | 400 | -- | -- | -- | 1.5 | 5.0 | -- |
| BUW35 | | 10 | 125 | 800 | 400 | -- | -- | -- | 1.5 | 5.0 | -- |
| BUW36 | | 10 | 125 | 900 | 450 | -- | -- | -- | 1.5 | 5.0 | -- |
| BUW44 | | 15 | 175 | 500 | 400 | -- | -- | -- | 3.0 | 10 | -- |
| BUW45 | | 15 | 175 | 800 | 400 | -- | -- | -- | 1.5 | 10 | -- |
| BUW46 | | 15 | 175 | 900 | 450 | -- | -- | -- | 1.5 | 10 | -- |
| BUX11 | | 20 | 150 | 250 | 200 | 20 | 60 | 6.0 | 1.5 | 12 | 8.0 |
| BUX43 | | 10 | 120 | 400 | 325 | 15 | 60 | 3.0 | 1.6 | 5.0 | 8.0 |
| BUX44 | | 8.0 | 120 | 450 | 400 | 15 | 45 | 2.0 | 2.0 | 4.0 | 8.0 |
| BUX47 | | 9.0 | 125 | 850 | 400 | -- | -- | -- | 3.0 | 9.0 | -- |
| BUX48 | | 15 | 175 | 850 | 400 | -- | -- | -- | 5.0 | 15 | -- |
| BUX80 | | 10 | 100 | 800 | 400 | 30* | -- | 1.2 | 3.0 | 8.0 | -- |
| BUY69A | | 10 | 100 | 1,000 | 400 | 15 | -- | 2.5 | 3.3 | 8.0 | 10* |
| BUY69B | | 10 | 100 | 800 | 325 | 15 | -- | 2.5 | 3.3 | 8.0 | 10* |

Shaded areas indicate Darlington.

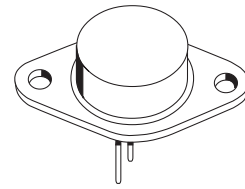
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(25-April 2005)

Power Transistors

TO-3 Case (Continued)



| TYPE NO. | | I _C (A) MAX | P _D (W) | BV _{CBO} **BV _{CEV} (V) MIN | BV _{CEO} (V) MIN | h _{FE} | | @ I _C (A) | V _{CE(SAT)} @ I _C | | f _T *TYP (MHz) MIN |
|-----------|-----------|------------------------------|-----------------------|--|---------------------------------|-----------------|--------|-------------------------|---------------------------------------|-----|--|
| NPN | PNP | | | | | MIN | MAX | | (V) MAX | (A) | |
| BUY69C | | 10 | 100 | 500 | 200 | 15 | -- | 2.5 | 3.3 | 8.0 | 10* |
| MJ802 | MJ4502 | 30 | 200 | 100 | 90 | 25 | 100 | 7.5 | 0.8 | 7.5 | 2.0 |
| MJ1000 | MJ 900 | 8.0 | 90 | 60 | 60 | 1,000 | -- | 3.0 | 4.0 | 8.0 | 6.0 |
| MJ1001 | MJ 901 | 8.0 | 90 | 80 | 80 | 1,000 | -- | 3.0 | 4.0 | 8.0 | 6.0 |
| MJ3000 | MJ2500 | 10 | 150 | 60 | 60 | 1,000 | -- | 5.0 | 4.0 | 10 | -- |
| MJ3001 | MJ2501 | 10 | 150 | 80 | 80 | 1,000 | -- | 5.0 | 4.0 | 10 | -- |
| MJ4033 | MJ4030 | 16 | 150 | 60 | 60 | 1,000 | -- | 10 | 4.0 | 16 | -- |
| MJ4034 | MJ4031 | 16 | 150 | 80 | 80 | 1,000 | -- | 10 | 4.0 | 16 | -- |
| MJ4035 | MJ4032 | 16 | 150 | 100 | 100 | 1,000 | -- | 10 | 4.0 | 16 | -- |
| MJ10012 | MJ6503 | 8.0 | 125 | 450** | 400 | 15 | -- | 2.0 | 5.0 | 8.0 | -- |
| MJ10023† | | 10 | 175 | 600 | 400 | 100 | 2,000 | 6.0 | 2.5 | 10 | -- |
| MJ10023† | | 40 | 250 | 600** | 400 | 50 | 600 | 10 | 5.0 | 40 | -- |
| MJ11012 | MJ11011 | 30 | 200 | 60 | 60 | 1,000 | -- | 20 | 4.0 | 30 | 4.0 |
| MJ11014 | MJ11013 | 30 | 200 | 90 | 90 | 1,000 | -- | 20 | 4.0 | 30 | 4.0 |
| MJ11016 | MJ11015 | 30 | 200 | 120 | 120 | 1,000 | -- | 20 | 4.0 | 30 | 4.0 |
| PMD10K40 | PMD11K40 | 12 | 150 | 40 | 40 | 800 | 20,000 | 6.0 | 2.0 | 12 | 4.0 |
| PMD10K60 | PMD11K60 | 12 | 150 | 60 | 60 | 800 | 20,000 | 6.0 | 2.0 | 6.0 | 4.0 |
| PMD10K80 | PMD11K80 | 12 | 150 | 80 | 80 | 800 | 20,000 | 6.0 | 2.0 | 6.0 | 4.0 |
| PMD10K100 | PMD11K100 | 12 | 150 | 100 | 100 | 800 | 20,000 | 6.0 | 2.0 | 6.0 | 4.0 |
| PMD12K40 | PMD13K40 | 8.0 | 100 | 40 | 40 | 800 | 20,000 | 4.0 | 2.0 | 4.0 | 4.0 |
| PMD12K60 | PMD13K60 | 8.0 | 100 | 60 | 60 | 800 | 20,000 | 4.0 | 2.0 | 4.0 | 4.0 |
| PMD12K80 | PMD13K80 | 8.0 | 100 | 80 | 80 | 800 | 20,000 | 4.0 | 2.0 | 4.0 | 4.0 |
| PMD12K100 | PMD13K100 | 8.0 | 100 | 100 | 100 | 800 | 20,000 | 4.0 | 2.0 | 4.0 | 4.0 |
| PMD1601K | PMD1701K | 20 | 180 | 60 | 60 | 750 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD1602K | PMD1702K | 20 | 180 | 80 | 80 | 750 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD1603K | PMD1703K | 20 | 180 | 100 | 100 | 750 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD16K60 | PMD17K60 | 20 | 200 | 60 | 60 | 800 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD16K80 | PMD17K80 | 20 | 200 | 80 | 80 | 800 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD16K100 | PMD17K100 | 20 | 200 | 100 | 100 | 800 | 20,000 | 10 | 2.0 | 10 | 4.0 |
| PMD18K60 | PMD19K60 | 30 | 225 | 60 | 60 | 800 | 20,000 | 15 | 2.0 | 15 | 4.0 |
| PMD18K80 | PMD19K80 | 30 | 225 | 80 | 80 | 800 | 20,000 | 15 | 2.0 | 15 | 4.0 |
| PMD18K100 | PMD19K100 | 30 | 225 | 100 | 100 | 800 | 20,000 | 15 | 2.0 | 15 | 4.0 |
| SE9303 | SE9403 | 10 | 100 | 60 | 60 | 1,000 | -- | 7.5 | 2.5 | 7.5 | 1.0 |
| SE9304 | SE9404 | 10 | 100 | 80 | 80 | 1,000 | -- | 7.5 | 2.5 | 7.5 | 1.0 |
| SE9305 | SE9405 | 10 | 100 | 100 | 100 | 1,000 | -- | 7.5 | 2.5 | 7.5 | 1.0 |

Shaded areas indicate Darlington.
 † Uses 60 mil leads.
 See mechanical specifications on page 209

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