

DIGITAL TRANSISTOR

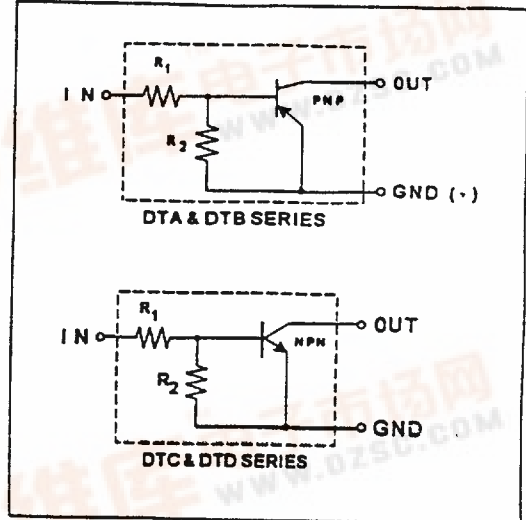
APPLICATION:

- Inverter, Driver & Interface Circuits

FEATURES:

- Replaces up to three parts (1 transistor & 2 resistors) with one part
- Available in a variety of surface mount or leaded (thru-hole) packages
- High packing density requires less board space
- Cost savings due to fewer components to purchase & stock & handle
- Improved reliability due to reduced number of components
- Available in PNP & NPN polarities
- Available in 100 mA & 500 mA devices
- Decreased parasitic effects
- Double diffused silicon, Epitaxial Planar Transistor with thin film internal bias resistors

EQUIVALENT CIRCUITS:



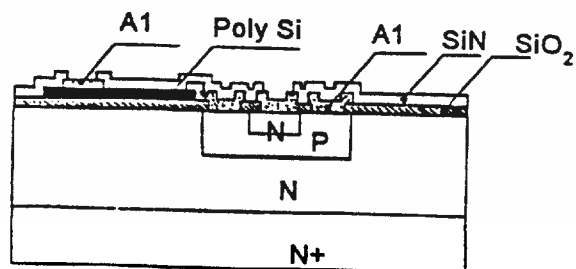
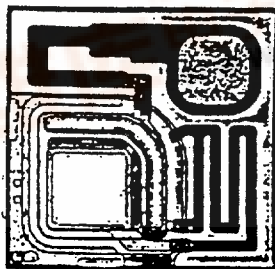
MAXIMUM RATINGS:

| PARAMETER | PNP | | NPN | | UNITS |
|-----------------------------------|-------------------------------------|-------------|-------------|-------------|-------------|
| | DTA | DTB | DTC | DTD | |
| Power Supply Voltage (V_{cc}) | 50 | 50 | 50 | 50 | Volts |
| Collector Current (I_c) | 100 | 500 | 100 | 500 | mA |
| Junction Temperature (T_j) | +125 | +125 | +125 | +125 | $^{\circ}C$ |
| Storage Temperature (T_{stg}) | -55 to +125 | -55 to +125 | -55 to +125 | -55 to +125 | $^{\circ}C$ |
| Power Dissipation (P_d) | Rated by Package -- See Table Below | | | | mW |

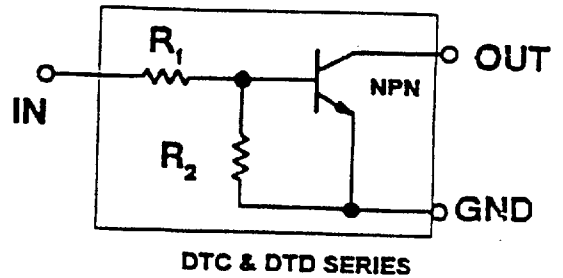
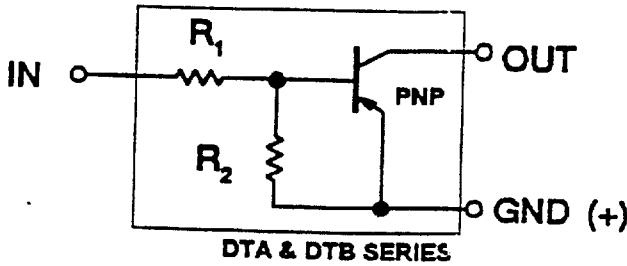
MAXIMUM POWER DISSIPATION BY PACKAGE: P_d (mW)

| Test Condition | SURFACE MOUNT DEVICES | | | | THRU-HOLE (LEADED) DEVICES | | | | |
|-------------------|-----------------------|----------------|-----|-----|----------------------------|-----|-----|-----|-----|
| | SST (SOT-23) | SMT (SC-59) | UMT | EM3 | SPT (TO-92S) | ATR | ATV | FTR | FTL |
| Free Air/PCB | 200 | 200 | 200 | 150 | 300 | 300 | 300 | 300 | 300 |
| Ceramic Substrate | 350 | 350 | 350 | 250 | — | — | — | — | — |

DIGITAL TRANSISTOR CONSTRUCTION:



Digital Transistor Summary Table



| Resistor Values | | PNP $I_c(\text{Max}) = 100 \text{ mA}$ 2N3906 | PNP $I_c(\text{Max}) = 600 \text{ mA}$ PN2907A/2N4403 | NPN $I_c(\text{Max}) = 100 \text{ mA}$ 2N3904 | NPN $I_c(\text{Max}) = 500 \text{ mA}$ PN2222A/2N4401 |
|--------------------------------------|-----------------------------------|---|---|---|---|
| R_1 | R_2 | | | | |
| 1/K 1/K 1/K | 1K NONE 10K | - DTA 113T DTA 113Z | DTB 113E - DTB 113Z | - - DTC 113Z | DTD 113E - DTD 113Z |
| 10K 0 10K 10K 10K | 10K 10K NONE 4.7K 47K | DTA 114E DTA 114G DTA 114T DTA 114W DTA 114Y/DTA 214Y | DTB 114E - DTB 114T - | DTC 114E DTC 114G DTC 114T/DTC 314T * DTC 114W DTC 114Y | DTD 114E DTD 114G DTD 114T - |
| 100K 0 100K 100K | 100K 100K NONE 10K | DTA 115E DTA 115G DTA 115T DTA 115U | - - - - | DTC 115E DTC 115G DTC 115T DTC 115U | - - - - |
| .22K | 4.7K | - | DTB 122J | - | DTD 122J |
| 2.2K 2.2K 2.2K 2.2K | 2.2K NONE 47K 10K | DTA 123E - DTA 123J DTA 123Y | DTB 123E DTB 123T - DTB 123Y | DTC 123E DTC 323T * DTC 123J DTC 123Y | DTD 123E DTD 123T - DTD 123Y |
| 2.7K | 1K | DTA 1D3R | - | DTC 1D3R | - |
| 22K 0 22K 22K | 22K 22K NONE 47K | DTA 124E DTA 124G DTA 124T DTA 124X | - - - - | DTC 124E DTC 124G DTC 124T DTC 124X | - - - - |
| 220K | NONE | DTA 125T | - | DTC 125T | - |
| 3.3K | 10K | - | DTB 133H | - | DTD 133H |
| 4.7K 4.7K 4.7K 4.7K 4.7K | 4.7K NONE 10K 22K 47K | DTA 143E DTA 143T DTA 143X DTA 143Y DTA 143Z | DTB 143E DTB 143T - - - | DTC 143E DTC 143T/DTC 343T * DTC 143X DTC 143Y DTC 143Z | DTD 143E DTD 143T - - - |
| 47K 0 47K 47K 47K | 47K 47K NONE 10K 22K | DTA 144E DTA 144G DTA 144T DTA 144V DTA 144W | - - - - - | DTC 144E DTC 144G DTC 144T DTC 144V DTC 144W | - - - - - |
| 6.8K 6.8K | 6.8K NONE | - - | - DTB 163T | DTC 363E * DTC 363T * | - DTD 163T |

* $I_c = 600 \text{ mA}$

NOTE: See "How to Order" for complete part number

7822899 0014556 446

TRANSISTORS

DIGITAL TRANSISTOR: PNP

ELECTRICAL CHARACTERISTICS: 100 mA Series

| PART NUMBER | Vin(off) | | | Vin(on) | | | Vo(on) | | | | Ib | | Ic(OFF) | | | Vce(SAT) | | | Cob @ F=1MHz | | | CUT-OFF FREQ | | | |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|---------|---------|--------------|----------|---------|--------------|----------|---------|---------|
| | Max (V) | Vce (V) | Ic (mA) | Min (V) | Vce (V) | Ic (mA) | TYP (V) | Max (V) | Ic (mA) | Ib (mA) | Max (mA) | Vin (V) | Max (uA) | Voc (V) | Vin (V) | Max (V) | Ic (mA) | Ib (mA) | TYP (pF) | Max (pF) | Vcb (V) | Ie (mA) | fT (MHz) | Vce (V) | Ic (mA) |
| DTA113Z | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA114E | 0.5 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 10 | 0.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA114W | 0.8 | 5 | 0.1 | 3 | 0.3 | 2 | 0.1 | 0.3 | 10 | 0.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA114Y | 0.3 | 5 | 0.1 | 1.4 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA115E | 0.5 | 5 | 0.1 | 3 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.15 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA115U | 3.3 | 5 | 0.1 | 1.5 | 0.3 | 1 | 0.1 | 0.3 | 7 | 0.2 | 0.1 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA123E | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA123J | 0.5 | 5 | 0.1 | 1.1 | 0.3 | 5 | 0.1 | 0.3 | 5 | 0.25 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA123Y | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA124E | 0.5 | 5 | 0.1 | 3 | 0.2 | 5 | 0.1 | 0.3 | 10 | 0.5 | 0.36 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA124X | 0.4 | 5 | 0.1 | 2.5 | 0.3 | 2 | 0.1 | 0.3 | 10 | 0.5 | 0.36 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA143E | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA143X | 0.3 | 5 | 0.1 | 2.5 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA143Y | 0.3 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 10 | 0.5 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA143Z | 0.5 | 5 | 0.1 | 1.3 | 0.3 | 5 | 0.1 | 0.3 | 5 | 0.25 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA144E | 0.5 | 5 | 0.1 | 3 | 0.3 | 2 | 0.1 | 0.3 | 10 | 0.5 | 0.18 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA144V | 1.0 | 5 | 0.1 | 6 | 0.3 | 2 | 0.1 | 0.3 | 10 | 0.5 | 0.18 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA144W | 0.8 | 5 | 0.1 | 4 | 0.3 | 2 | 0.1 | 0.3 | 10 | 0.5 | 0.16 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA214Y | 0.3 | 5 | 0.1 | 1.4 | 0.3 | 1 | 0.1 | 0.3 | 50 | 2.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA1D3R | 1.5 | 5 | 0.1 | 4 | 0.3 | 5 | 0.1 | 0.3 | 10 | 1 | 3.7 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |

| PART NUMBER | Vin(off) | | | Vin(on) | | | Vo(on) | | | | Ib | | Ic(OFF) | | | Vce(SAT) | | | Cob @ F=1MHz | | | CUT-OFF FREQ | | | |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|---------|---------|--------------|----------|---------|--------------|----------|---------|---------|
| | Max (V) | Vce (V) | Ic (mA) | Min (V) | Vce (V) | Ic (uA) | TYP (V) | Max (V) | Ic (mA) | Ib (mA) | Max (mA) | Vin (V) | Max (uA) | Voc (V) | Vin (V) | Max (V) | Ic (mA) | Ib (mA) | TYP (pF) | Max (pF) | Vcb (V) | Ie (mA) | fT (MHz) | Vce (V) | Ic (mA) |
| DTA143T | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA114T | 0.5 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 10 | 0.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 10 | 1 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA124T | 0.8 | 5 | 0.1 | 3 | 0.3 | 2 | 0.1 | 0.3 | 5 | 0.25 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.5 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA144T | 0.3 | 5 | 0.1 | 1.4 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.5 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA115T | 0.5 | 5 | 0.1 | 3 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.15 | 5 | 10 | 30 | 0 | 0.3 | 1 | 0.1 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA125T | 0.8 | 5 | 0.1 | 3 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.33 | 5 | 10 | 30 | 0 | 0.3 | 0.5 | 0.05 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA113T | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.2 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |

| PART NUMBER | Vin(off) | | | Vin(on) | | | Vo(on) | | | | Ib | | Ic(OFF) | | | Vce(SAT) | | | Cob @ F=1MHz | | | CUT-OFF FREQ | | | |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|---------|---------|--------------|----------|---------|--------------|----------|---------|---------|
| | Max (V) | Vce (V) | Ic (mA) | Min (V) | Vce (V) | Ic (uA) | TYP (V) | Max (V) | Ic (mA) | Ib (mA) | Max (mA) | Vin (V) | Max (uA) | Voc (V) | Vin (V) | Max (V) | Ic (mA) | Ib (mA) | TYP (pF) | Max (pF) | Vcb (V) | Ie (mA) | fT (MHz) | Vce (V) | Ic (mA) |
| DTA114G | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 10 | 0.5 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA124G | 0.5 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 10 | 0.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 10 | 0.5 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA144G | 0.8 | 5 | 0.1 | 3 | 0.3 | 2 | 0.1 | 0.3 | 5 | 0.25 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 10 | 0.5 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTA115G | 0.3 | 5 | 0.1 | 1.4 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 10 | 0.25 | 3 | 6 | 10 | 0 | 250 | 10 | 5 |
| DTB114G | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 50 | 2.5 | 3 | 6 | 10 | 0 | 200 | 10 | 5 |

ELECTRICAL CHARACTERISTICS: 500 mA Series

| PART NUMBER | Vin(off) | | | Vin(on) | | | Vo(on) | | | | Ib | | Ic(OFF) | | | Vce(SAT) | | | Cob @ F=1MHz | | | CUT-OFF FREQ | | | |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|---------|---------|--------------|----------|---------|--------------|----------|---------|---------|
| | Max (V) | Vce (V) | Ic (mA) | Min (V) | Vce (V) | Ic (uA) | TYP (V) | Max (V) | Ic (mA) | Ib (mA) | Max (mA) | Vin (V) | Max (uA) | Voc (V) | Vin (V) | Max (V) | Ic (mA) | Ib (mA) | TYP (pF) | Max (pF) | Vcb (V) | Ie (mA) | fT (MHz) | Vce (V) | Ic (mA) |
| DTB113E | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB113Z | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB114E | 0.5 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 50 | 2.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB123E | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB143E | 0.5 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB123Y | 0.3 | 5 | 0.1 | 2 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 3.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB122J | 0.3 | 5 | 0.1 | 2 | 0.3 | 30 | 0.1 | 0.3 | 50 | 2.5 | 4.5 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |
| DTB133H | 0.3 | 5 | 0.1 | 2 | 0.3 | 20 | 0.1 | 0.3 | 50 | 2.5 | 2.4 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 50 |

| PART NUMBER | Vin(off) | | | Vin(on) | | | Vo(on) | | | | Ib | | Ic(OFF) | | | Vce(SAT) | | | Cob @ F=1MHz | | | CUT-OFF FREQ | | | |
|-------------|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|----------|---------|---------|----------|---------|---------|--------------|----------|---------|--------------|----------|---------|---------|
| | Max (V) | Vce (V) | Ic (mA) | Min (V) | Vce (V) | Ic (uA) | TYP (V) | Max (V) | Ic (mA) | Ib (mA) | Max (mA) | Vin (V) | Max (uA) | Voc (V) | Vin (V) | Max (V) | Ic (mA) | Ib (mA) | TYP (pF) | Max (pF) | Vcb (V) | Ie (mA) | fT (MHz) | Vce (V) | Ic (mA) |
| DTB123T | 0.3 | 5 | 0.1 | 3 | 0.3 | 20 | 0.1 | 0.3 | 10 | 0.5 | 7.2 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 5 |
| DTB143T | 0.5 | 5 | 0.1 | 3 | 0.3 | 10 | 0.1 | 0.3 | 10 | 0.5 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 5 |
| DTB163T | 0.8 | 5 | 0.1 | 3 | 0.3 | 2 | 0.1 | 0.3 | 5 | 0.25 | 1.8 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 5 |
| DTB114T | 0.3 | 5 | 0.1 | 1.4 | 0.3 | 1 | 0.1 | 0.3 | 5 | 0.25 | 0.88 | 5 | 10 | 30 | 0 | 0.3 | 5 | 0.25 | 3 | 6 | 10 | 0 | 200 | 10 | 5 |

TRANSISTORS

DIGITAL TRANSISTOR: PNP

ELECTRICAL CHARACTERISTICS: 100 mA Series

| PART NUMBER | TYP | RESISTOR VALUE | | | Ic Max (mA) | INPUT VOLT | | hFE | | | Icbo | | Icbo | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | | |
|-------------|-----|----------------|--------|-------|----------------|------------|-----|-----|---------|---------|------|---------|------|---------|-----------|----------|--------------------|------|--|
| | | R1 (K) | R2 (K) | R2/R1 | | Min | Max | Min | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | Vce (V) | | | | | |
| DTA113Z | PNP | 1.0 | 10.0 | 8 | 10 | 12 | 100 | -10 | 5 | 33 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E11/111 | A776 | |
| DTA114E | PNP | 10.0 | 10.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 30 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 14 | A768 | |
| DTA114W | PNP | 10.0 | 4.7 | 0.37 | 0.47 | 0.57 | 100 | -30 | 10 | 24 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 74 | A778 | |
| DTA114Y | PNP | 10.0 | 47.0 | 3.7 | 4.7 | 5.7 | 100 | -40 | 6 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 54 | A762 | |
| DTA115E* | PNP | 100.0 | 100.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 82 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 19 | B861 | |
| DTA115U | PNP | 100.0 | 10.0 | 0.08 | 0.1 | 0.12 | 100 | -40 | 10 | 27 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E79/179 | B865 | |
| DTA123E | PNP | 2.2 | 2.2 | 0.8 | 1 | 1.2 | 100 | -12 | 10 | 20 | 5 | 20 | 0.5 | 50 | 0.5 | 50 | 12 | A733 | |
| DTA123J | PNP | 2.2 | 47.0 | 17 | 21 | 26 | 100 | -12 | 5 | 80 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 52 | A777 | |
| DTA123Y | PNP | 2.2 | 10.0 | 3.8 | 4.5 | 5.5 | 100 | -12 | 5 | 33 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 52 | A777 | |
| DTA124E | PNP | 22.0 | 22.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 56 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 15 | A761 | |
| DTA124X | PNP | 22.0 | 47.0 | 1.7 | 2.1 | 2.6 | 100 | -40 | 10 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 35 | A770 | |
| DTA143E | PNP | 4.7 | 4.7 | 0.8 | 1 | 1.2 | 100 | -30 | 10 | 20 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 13 | A788 | |
| DTA143X | PNP | 4.7 | 10.0 | 1.7 | 2.1 | 2.6 | 100 | -20 | 7 | 30 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 33 | A789 | |
| DTA143Y | PNP | 4.7 | 22.0 | 3.7 | 4.7 | 5.7 | 100 | -30 | 6 | 58 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 53 | A785 | |
| DTA143Z | PNP | 4.7 | 47.0 | 8 | 10 | 12 | 100 | -30 | 5 | 80 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | E13/113 | A775 | |
| DTA144E | PNP | ~7.0 | 47.0 | 0.8 | 1 | 1.2 | 100 | -40 | 15 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 16 | A782 | |
| DTA144V | PNP | ~7.0 | 10.0 | 0.17 | 0.21 | 0.26 | 100 | | | 33 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E56/156 | A774 | |
| DTA144W | PNP | 47.0 | 22.0 | 0.37 | 0.47 | 0.57 | 100 | -40 | 10 | 56 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 76 | A767 | |
| DTA214Y | PNP | 10 | 47 | 3.7 | 4.7 | 5.7 | 100 | -40 | 6 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | N14 | A762 | |
| DTA1D3R | PNP | 2.7 | 1.0 | 0.33 | 0.37 | 0.41 | 100 | -15 | 15 | 20 | 5 | 30 | 0.5 | 50 | 0.5 | 50 | K3B | A784 | |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | Icbo | | Icbo | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|--------|------|-----------------|-----------------|-----------------|----------------|-----|-----|------|---------|---------|-----|-----------|----------|--------------------|---------|
| | | R1 (K) | R2 (K) | None | | | | | Min | Typ | Max | Vce (V) | Ic (mA) | Max | | | | Vcb (V) |
| DTA143T | PNP | 4.7 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 93 | A764 |
| DTA114T | PNP | 10.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 94 | A765 |
| DTA124T | PNP | 22.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 800 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 95 | A771 |
| DTA144T | PNP | 47.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 96 | A772 |
| DTA115T | PNP | 100.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 99 | B864 |
| DTA125T | PNP | 200.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 9A | B863 |
| DTA113T | PNP | 1.0 | NONE | 50 | 50 | 5 | 100 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 91 | A786 |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | Icbo | | Icbo | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|--------|------|-----------------|-----------------|-----------------|----------------|-----|-----|------|---------|---------|-----|-----------|----------|--------------------|---------|
| | | R1 (K) | R2 (K) | None | | | | | Min | Typ | Max | Vce (V) | Ic (mA) | Max | | | | Vcb (V) |
| DTA114G | PNP | 0 | 10.0 | 50 | 50 | 5 | 100 | 30 | - | - | 5 | 5 | 0.5 | 50 | 580 | 4 | K14 | A780 |
| DTA124G | PNP | 0 | 22.0 | 50 | 50 | 5 | 100 | 56 | - | - | 5 | 5 | 0.5 | 50 | 260 | 4 | K15 | A781 |
| DTA144G | PNP | 0 | 47.0 | 50 | 50 | 5 | 100 | 88 | - | - | 5 | 5 | 0.5 | 50 | 130 | 4 | K16 | A782 |
| DTA115G | PNP | 0 | 100.0 | 50 | 50 | 5 | 100 | 82 | - | - | 5 | 5 | 0.5 | 50 | 58 | 4 | K19 | B862 |
| DTB114G | PNP | 0 | 10.0 | 50 | 50 | 5 | 500 | 58 | - | - | 5 | 100 | 0.5 | 50 | 0.5 | 4 | L14 | B728 |

ELECTRICAL CHARACTERISTICS: 500 mA Series

| PART NUMBER | TYP | RESISTOR VALUE | | | Ic Max (mA) | INPUT VOLT | | hFE | | | Icbo | | Icbo | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|--------|-------|----------------|------------|-----|-----|---------|---------|------|---------|------|---------|-----------|----------|--------------------|------|
| | | R1 (K) | R2 (K) | R2/R1 | | Min | Max | Min | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | Vcb (V) | | | | |
| DTB113E | PNP | 1.0 | 1.0 | 0.8 | 1 | 1.2 | 500 | -10 | 10 | 33 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F11 | B717 |
| DTB113Z | PNP | 1.0 | 10.0 | 8 | 10 | 12 | 500 | -10 | 5 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G11 | B718 |
| DTB114E | PNP | 10.0 | 10.0 | 0.8 | 1 | 1.2 | 500 | -40 | 10 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F14 | B714 |
| DTB123E | PNP | 2.2 | 2.2 | 0.8 | 1 | 1.2 | 500 | -12 | 10 | 39 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F12 | B712 |
| DTB143E | PNP | 4.7 | 4.7 | 0.8 | 1 | 1.2 | 500 | -30 | 10 | 47 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F13 | B713 |
| DTB123Y | PNP | 2.2 | 10.0 | 3.8 | 4.5 | 5.5 | 500 | -12 | 5 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F52 | B715 |
| DTB122J | PNP | 0.22 | 4.7 | 17.1 | 21.3 | 25.8 | 500 | -5 | 5 | 47 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G3C | B725 |
| DTB133H | PNP | 3.3 | 10.0 | 2.4 | 3 | 3.7 | 500 | -20 | 6 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G98 | B719 |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | Icbo | | Icbo | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|--------|------|-----------------|-----------------|-----------------|----------------|-----|-----|------|---------|---------|-----|-----------|----------|--------------------|---------|
| | | R1 (K) | R2 (K) | None | | | | | Min | Typ | Max | Vce (V) | Ic (mA) | Max | | | | Vcb (V) |
| DTB123T | PNP | 2.2 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E92 | B723 |
| DTB143T | PNP | 4.7 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | F03 | B720 |
| DTB163T | PNP | 6.8 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E97 | B721 |
| DTB114T | PNP | 10.0 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E94 | B722 |

TRANSISTORS

100000

DIGITAL TRANSISTOR: NPN ELECTRICAL CHARACTERISTICS: 100 mA Series

| PART NUMBER | TYP | RESISTOR VALUE | | | R2/R1 | | | Ic Max (mA) | INPUT VOLT | | | hFE | | Icbo | | Icso | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT |
|-------------|-----|----------------|-----------|------|-------|------|-----|-------------------|------------|-----|------------|------------|-----|------------|-----|------------|---------|-----------|----------|--------------------|
| | | R1 (K) | R2 (K) | Min | Typ | Max | Min | | Max | Min | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | Vce (V) | | | | |
| DTC113Z | NPN | 1.0 | 10.0 | 8 | 10 | 12 | 100 | -10 | 5 | 33 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E12/121 | C776 | | |
| DTC114E | NPN | 10.0 | 10.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 30 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 24 | C766 | | |
| DTC114W | NPN | 10.0 | 4.7 | 0.37 | 0.47 | 0.57 | 100 | -30 | 10 | 24 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 84 | C778 | | |
| DTC114Y | NPN | 10.0 | 47.0 | 3.7 | 4.7 | 5.7 | 100 | -40 | 8 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 64 | C762 | | |
| DTC115E* | NPN | 100.0 | 100.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 82 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 29 | D861 | | |
| DTC115U | NPN | 100.0 | 10.0 | 0.08 | 0.1 | 0.12 | 100 | -40 | 10 | 27 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E89/189 | D865 | | |
| DTC123E | NPN | 2.2 | 2.2 | 0.8 | 1 | 1.2 | 100 | -12 | 10 | 20 | 5 | 20 | 0.5 | 50 | 0.5 | 50 | 22 | C733 | | |
| DTC123J | NPN | 2.2 | 47.0 | 17 | 21 | 26 | 100 | -12 | 5 | 80 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | E42/142 | C774 | | |
| DTC123Y | NPN | 2.2 | 10.0 | 3.6 | 4.5 | 5.5 | 100 | -12 | 5 | 33 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 62 | C777 | | |
| DTC124E | NPN | 22.0 | 22.0 | 0.8 | 1 | 1.2 | 100 | -40 | 10 | 58 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 25 | C781 | | |
| DTC124X | NPN | 22.0 | 47.0 | 1.7 | 2.1 | 2.6 | 100 | -40 | 10 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 45 | C770 | | |
| DTC143E | NPN | 4.7 | 4.7 | 0.8 | 1 | 1.2 | 100 | -30 | 10 | 20 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 23 | C768 | | |
| DTC143X | NPN | 4.7 | 10.0 | 1.7 | 2.1 | 2.6 | 100 | -20 | 7 | 30 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | 43 | C789 | | |
| DTC143Y | NPN | 4.7 | 22.0 | 3.7 | 4.7 | 5.7 | 100 | -30 | 6 | 58 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 63 | C785 | | |
| DTC143Z | NPN | 4.7 | 47.0 | 8 | 10 | 12 | 100 | -30 | 5 | 80 | 5 | 10 | 0.5 | 50 | 0.5 | 50 | E23/123 | C775 | | |
| DTC144E | NPN | 47.0 | 47.0 | 0.8 | 1 | 1.2 | 100 | -40 | 15 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 26 | C782 | | |
| DTC144V | NPN | 47.0 | 10.0 | 0.17 | 0.21 | 0.26 | 100 | | | 33 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | E66/166 | C774 | | |
| DTC144W | NPN | 47.0 | 22.0 | 0.37 | 0.47 | 0.57 | 100 | -40 | 10 | 58 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | 86 | C767 | | |
| DTC214Y | NPN | 10 | 47 | 3.7 | 4.7 | 5.7 | 100 | -40 | 6 | 68 | 5 | 5 | 0.5 | 50 | 0.5 | 50 | N24 | C762 | | |
| DTC1D3R | NPN | 2.7 | 1.0 | 0.33 | 0.37 | 0.41 | 100 | -15 | 15 | 20 | 5 | 30 | 0.5 | 50 | 0.5 | 50 | K4B | C784 | | |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | | Icbo | | Icso | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT |
|-------------|-----|----------------|-----------|-----|--------------------|--------------------|--------------------|-------------------|-----|-----|------------|------------|-----|------------|-----|-----------|----------|--------------------|
| | | R1 (K) | R2 (K) | Min | | | | | Typ | Max | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | | | |
| DTC143T | NPN | 4.7 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 3 | C764 | |
| DTC114T | NPN | 10.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 4 | C765 | |
| DTC124T | NPN | 22.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 5 | C771 | |
| DTC144T | NPN | 47.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 6 | C772 | |
| DTC115T | NPN | 100.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 9 | D864 | |
| DTC125T | NPN | 200.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 0A | D863 | |
| DTC113T | NPN | 1.0 | NONE | 50 | 50 | 5 | 100 | 250 | 600 | 5 | 1 | 0.5 | 50 | 0.5 | 4 | 1 | C786 | |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | | Icbo | | Icso | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|-----------|-----|--------------------|--------------------|--------------------|-------------------|-----|-----|------------|------------|-----|------------|-----|-----------|----------|--------------------|------------|
| | | R1 (K) | R2 (K) | Min | | | | | Typ | Max | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | | | | Vce (V) |
| DTC114G | NPN | 0 | 10.0 | 50 | 50 | 5 | 100 | 30 | - | - | 5 | 5 | 0.5 | 50 | 580 | 4 | K24 | C780 | |
| DTC124G | NPN | 0 | 22.0 | 50 | 50 | 5 | 100 | 56 | - | - | 5 | 5 | 0.5 | 50 | 260 | 4 | K25 | C781 | |
| DTC144G | NPN | 0 | 47.0 | 50 | 50 | 5 | 100 | 68 | - | - | 5 | 5 | 0.5 | 50 | 130 | 4 | K26 | C782 | |
| DTC115G | NPN | 0 | 100.0 | 50 | 50 | 5 | 100 | 82 | - | - | 5 | 5 | 0.5 | 50 | 58 | 4 | K29 | D862 | |
| DTD114G | NPN | 0 | 10.0 | 50 | 50 | 5 | 500 | 56 | - | - | 5 | 100 | 0.5 | 50 | 0.5 | 4 | L24 | D726 | |

ELECTRICAL CHARACTERISTICS: 500 mA Series

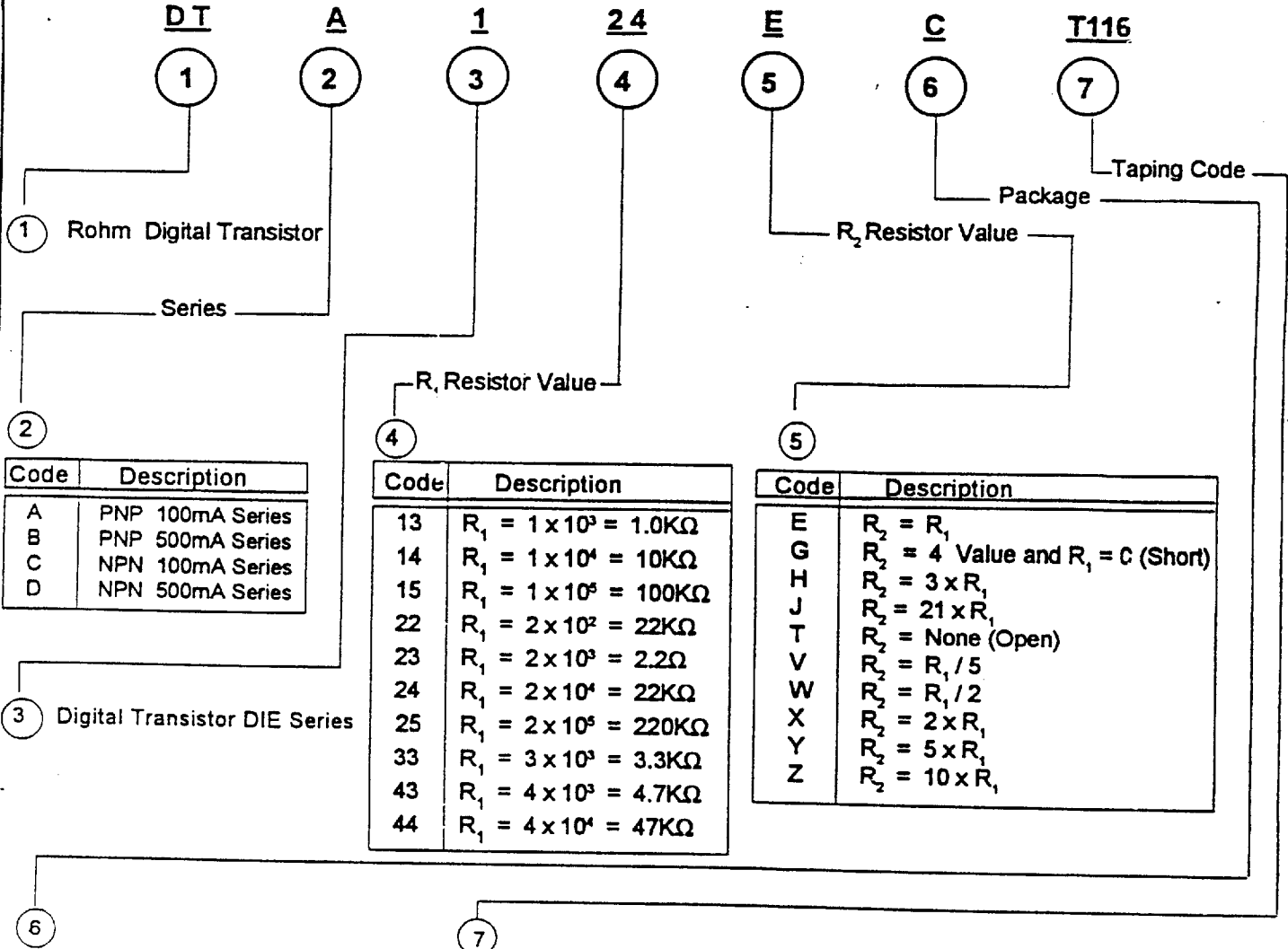
| PART NUMBER | TYP | RESISTOR VALUE | | | R2/R1 | | | Ic Max (mA) | INPUT VOLT | | | hFE | | Icbo | | Icso | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT |
|-------------|-----|----------------|-----------|------|-------|------|-----|-------------------|------------|-----|------------|------------|-----|------------|-----|------------|-----|-----------|----------|--------------------|
| | | R1 (K) | R2 (K) | Min | Typ | Max | Min | | Max | Min | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | Vce (V) | | | | |
| DTD113E | NPN | 1.0 | 1.0 | 0.8 | 1 | 1.2 | 500 | -10 | 10 | 33 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F21 | D717 | | |
| DTD113Z | NPN | 1.0 | 10.0 | 8 | 10 | 12 | 500 | -10 | 5 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G21 | D718 | | |
| DTD114E | NPN | 10.0 | 10.0 | 0.8 | 1 | 1.2 | 500 | -40 | 10 | 58 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F24 | D714 | | |
| DTD123E | NPN | 2.2 | 2.2 | 0.8 | 1 | 1.2 | 500 | -12 | 10 | 39 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F22 | D712 | | |
| DTD143E | NPN | 4.7 | 4.7 | 0.8 | 1 | 1.2 | 500 | -30 | 10 | 47 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F23 | D713 | | |
| DTD123Y | NPN | 2.2 | 10.0 | 3.6 | 4.5 | 5.5 | 500 | -12 | 5 | 56 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | F62 | D715 | | |
| DTD122J | NPN | 0.22 | 4.7 | 17.1 | 21.3 | 25.6 | 500 | -5 | 5 | 47 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G4C | D725 | | |
| DTD133H | NPN | 3.3 | 10.0 | 2.4 | 3 | 3.7 | 500 | -20 | 6 | 58 | 5 | 50 | 0.5 | 50 | 0.5 | 50 | G08 | D719 | | |

| PART NUMBER | TYP | RESISTOR VALUE | | | Vcbo Max (V) | Vceo Max (V) | Vebo Max (V) | Ic Max (mA) | hFE | | | Icbo | | Icso | | PART MARK | DIE TYPE | EQUIVALENT CIRCUIT | |
|-------------|-----|----------------|-----------|-----|--------------------|--------------------|--------------------|-------------------|-----|-----|------------|------------|-----|------------|-----|-----------|----------|--------------------|------------|
| | | R1 (K) | R2 (K) | Min | | | | | Typ | Max | Vce (V) | Ic (mA) | Max | Vcb (V) | Max | | | | Vce (V) |
| DTD123T | NPN | 2.2 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E02 | D723 | |
| DTD143T | NPN | 4.7 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | F13 | D720 | |
| DTD163T | NPN | 9.8 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E07 | D721 | |
| DTD114T | NPN | 10.0 | NONE | 50 | 50 | 5 | 500 | 100 | 250 | 600 | 5 | 50 | 0.5 | 50 | 0.5 | 4 | E04 | D722 | |

6

Digital Transistors

HOW TO ORDER:



| Code | Description |
|------|------------------|
| A | PNP 100mA Series |
| B | PNP 500mA Series |
| C | NPN 100mA Series |
| D | NPN 500mA Series |

| Code | Description |
|------|--|
| 13 | R ₁ = 1 × 10 ³ = 1.0KΩ |
| 14 | R ₁ = 1 × 10 ⁴ = 10KΩ |
| 15 | R ₁ = 1 × 10 ⁵ = 100KΩ |
| 22 | R ₁ = 2 × 10 ² = 22KΩ |
| 23 | R ₁ = 2 × 10 ³ = 2.2Ω |
| 24 | R ₁ = 2 × 10 ⁴ = 22KΩ |
| 25 | R ₁ = 2 × 10 ⁵ = 220KΩ |
| 33 | R ₁ = 3 × 10 ³ = 3.3KΩ |
| 43 | R ₁ = 4 × 10 ³ = 4.7KΩ |
| 44 | R ₁ = 4 × 10 ⁴ = 47KΩ |

| Code | Description |
|------|---|
| E | R ₂ = R ₁ |
| G | R ₂ = 4 Value and R ₁ = C (Short) |
| H | R ₂ = 3 × R ₁ |
| J | R ₂ = 21 × R ₁ |
| T | R ₂ = None (Open) |
| V | R ₂ = R ₁ / 5 |
| W | R ₂ = R ₁ / 2 |
| X | R ₂ = 2 × R ₁ |
| Y | R ₂ = 5 × R ₁ |
| Z | R ₂ = 10 × R ₁ |

| | PKG | DESCRIPTION | TAPING CODE | DESCRIPTION | PKG. QTY. | PACKAGE SIZE |
|----------------|----------------------|-----------------------------|------------------------------|------------------------------|-----------------|------------------------|
| | | | | | | |
| SURFACE MOUNT | K | SMT (SC-59/JAPANESE SOT-23) | * T146 | 1 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178mm/7" Reel |
| | | | * T147 | 2 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178mm/7" Reel |
| | | | * T246 | 1 PIN SIDE ON FEED HOLE SIDE | 10,000 | 330mm/13" Reel |
| | C | SST (EUROPEAN SOT-23) | * T116 | 1 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178mm/7" Reel |
| | | | * T117 | 2 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178mm/7" Reel |
| U | UMT (DTA & DTC ONLY) | * T216 | 1 PIN SIDE ON FEED HOLE SIDE | 10,000 | 330 mm/13" Reel | |
| | | | * T106 | 1 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178 mm/7" Reel |
| E | EM3 (DTA & DTC ONLY) | T107 | 2 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178 mm/7" Reel | |
| | | | * TL | 1 PIN SIDE ON FEED HOLE SIDE | 3,000 | 178 mm/7" Reel |
| LEADED DEVICES | S | SPT (Short TO-92) | NONE | AMMO BOX RADIAL | 5,000 | W-335/H-135/D-40(mm) |
| | | | | BULK | 2,000 | Polyethylene Bag |
| | V | ATV | TV2 | AMMO BOX RADIAL | 2,500 | W-334/H-280/D-41(mm) |
| | | | | TV3 | AMMO BOX RADIAL | 2,500 |
| | L | FTL | TL2 | AMMO BOX RADIAL | 2,500 | W-334/H-280/D-41(mm) |
| | | | | TL3 | AMMO BOX RADIAL | 2,500 |
| F | FTR | NONE | C1 | BULK | 2,000 | Polyethylene Bag |
| | | | | TUBE | 8,000 | L-565/W-4.2/H-11.5(mm) |
| A | ATR | NONE | C2 | BULK | 2,000 | Polyethylene Bag |
| | | | | TUBE | 8,000 | L-565/W-4.2/H-12.6(mm) |

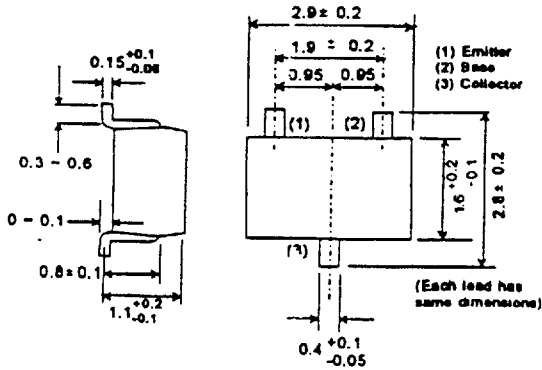
Note: SOT-23, SC-59 and SPT packages are standard products.

* Standard Taping Codes

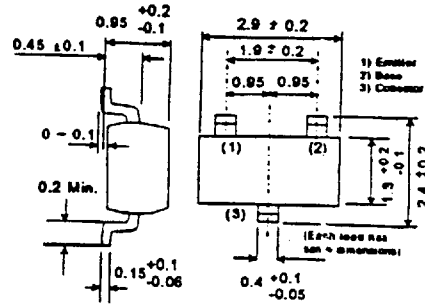
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7

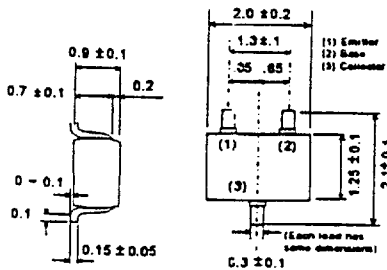
• Surface Mount Packages: Unit (mm)



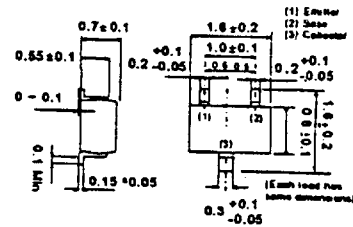
SMT (SC-59/Japanese SOT-23)



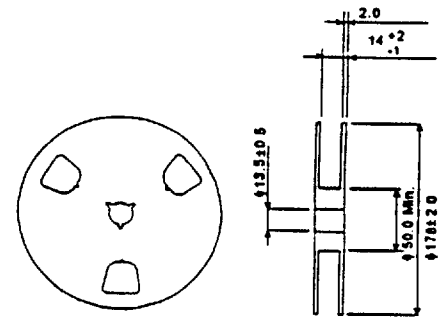
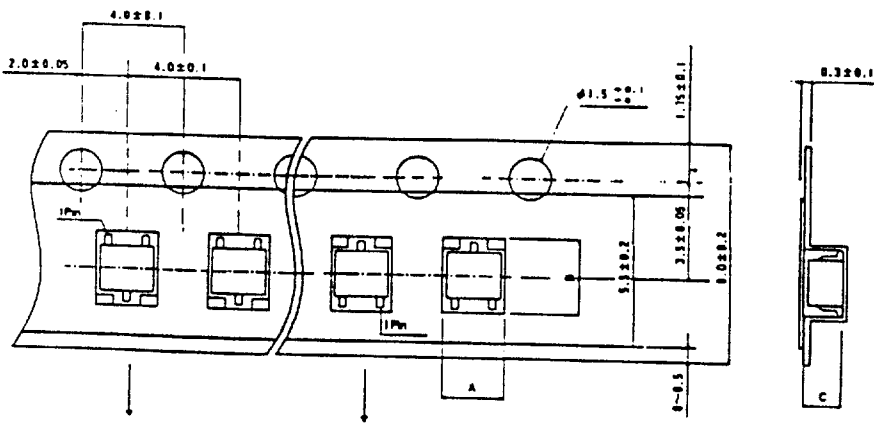
SST (European SOT-23)



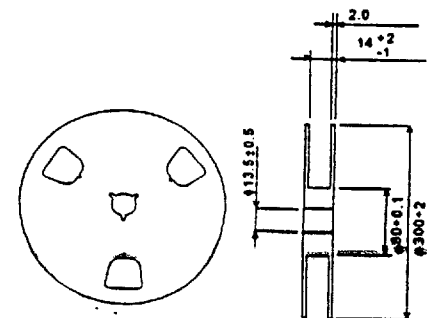
UMT



EM3



178 mm/7" Reel



330 mm/13" Reel

| Package | Code |
|---------|------|
| SMT | T147 |
| SST | T117 |
| UMT | T107 |
| EM3 | TR |

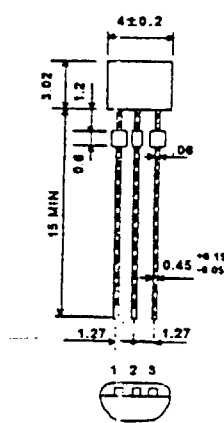
| Package | Code |
|---------|-----------|
| SMT | T146/T246 |
| SST | T116/T216 |
| UMT | T106/T206 |
| EM3 | TL |

| Package | Size | | |
|---------|-----------|-----------|------------|
| | A | B | C |
| SMT | 3.1 ± 0.2 | 3.2 ± 0.2 | 1.35 ± 0.1 |
| SST | 3.1 ± 0.2 | 2.8 ± 0.2 | 1.25 ± 0.2 |
| UMT | 2.2 ± 0.1 | 2.4 ± 0.1 | 1.15 ± 0.1 |
| EM3 | 1.8 ± 0.1 | 1.8 ± 0.2 | 0.9 ± 0.2 |

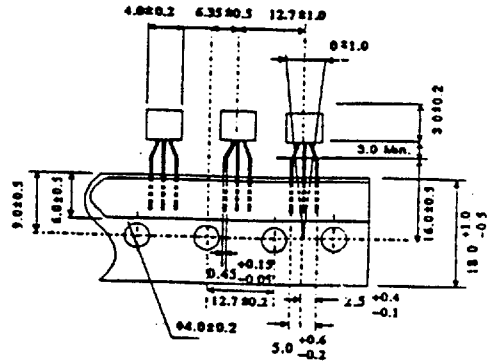
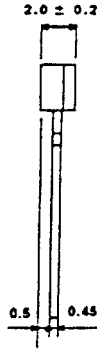
Tape and Reel Dimensions

782954100 6668282

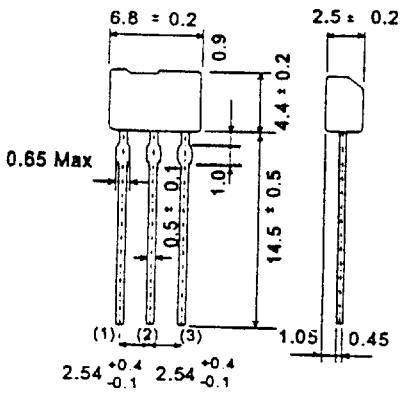
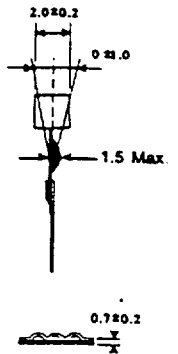
Leaded (thru-hole) Packages



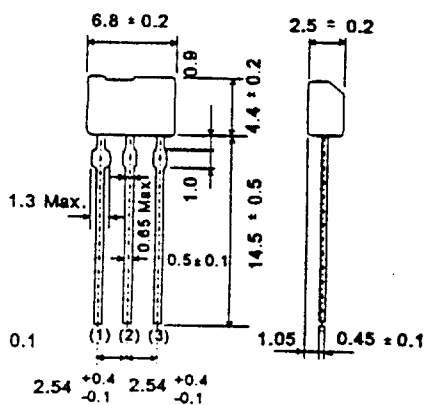
SPT(TO-92S) Package



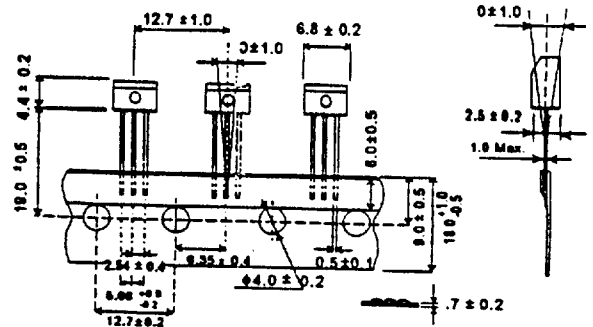
Ammo Box Taping Dimensions



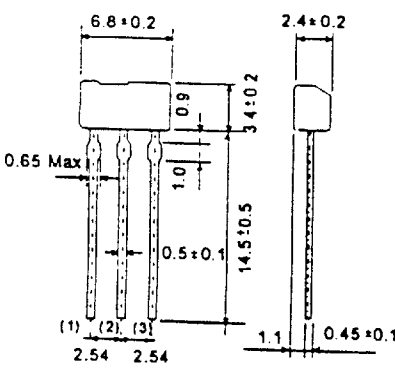
ATV(TV2 Style) Package



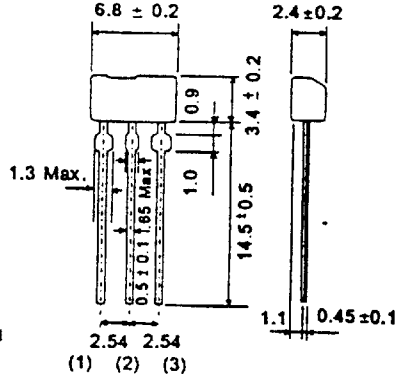
ATV(TV3 Style) Package



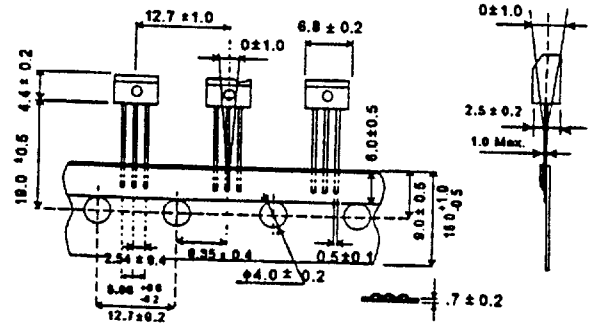
Ammo Box Taping Dimensions



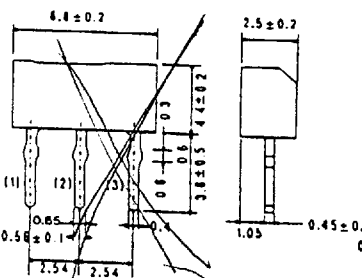
FTL(TL2 Style) Package



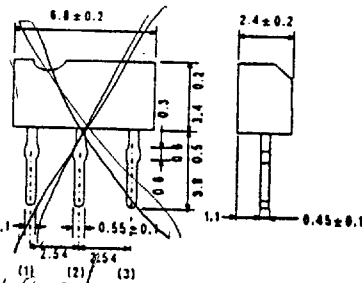
FTL(TL3 Style) Package



Ammo Box Taping Dimensions



FTR Package



ATR Package

Discontinued

| PKG. | TAPING CODE | DESCRIPTION | PKG. QTY. |
|-------------|-------------|----------------------------|-----------|
| SPT(TO-92S) | TP | AMMO BOX RADIAL (Standard) | 5,000 |
| | NONE | BULK | 2,000 |
| ATV | TV2 | AMMO BOX RADIAL (Standard) | 2,500 |
| | TV3 | AMMO BOX RADIAL | 2,500 |
| FTL | TL2 | AMMO BOX RADIAL (Standard) | 2,500 |
| | TL3 | AMMO BOX RADIAL | 2,500 |
| FTR | NONE | BULK (Standard) | 2,000 |
| | TP | TUBE (Standard) | 8,000 |
| ATR | NONE | BULK (Standard) | 2,000 |
| | TP | TUBE (Standard) | 8,000 |

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