



Micro Commercial Components



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20736 Marilla Street Chatsworth
CA 91311
Phone: (818) 701-4933
Fax: (818) 701-4939

UMC4N

DIGITAL TRANSISTOR

Features

- DTC144E and DTA114Y transistors are built-in a package
- Lead Free Finish/RoHS Compliant ("P" Suffix designates RoHS Compliant. See ordering information)
- Epoxy meets UL 94 V-0 flammability rating
- Moisture Sensitivity Level 1
- Halogen free available upon request by adding suffix "-HF"

MARKING:C4

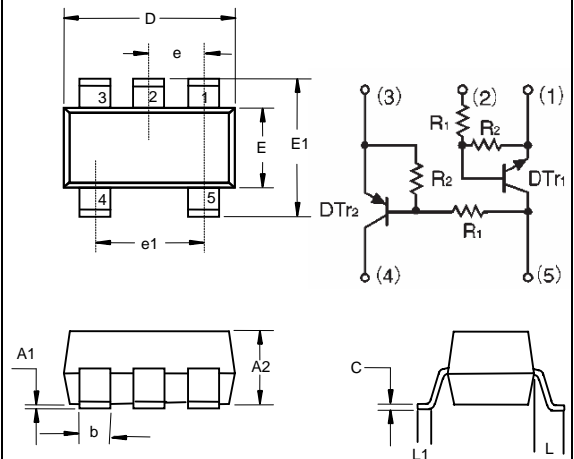
NPN DTC144E Absolute maximum ratings (T_a=25°C)

| Parameter | Symbol | Value | Unit |
|----------------------|---------------------|---------|------|
| Supply voltage | V _{CC} | 50 | V |
| Input voltage | V _{IN} | -10~40 | V |
| Output current | I _O | 100 | mA |
| | I _{C(MAX)} | 100 | |
| Power dissipation | P _C | 150 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature | T _{stg} | -55~150 | °C |

PNP DTA114Y Absolute maximum ratings (T_a=25°C)

| Parameter | Symbol | Value | Unit |
|----------------------|---------------------|---------|------|
| Supply voltage | V _{CC} | -50 | V |
| Input voltage | V _{IN} | -40~ +6 | V |
| Output current | I _O | -70 | mA |
| | I _{C(MAX)} | -100 | |
| Power dissipation | P _C | 150 | mW |
| Junction temperature | T _j | 150 | °C |
| Storage temperature | T _{stg} | -55~150 | °C |

SOT-353



| DIM | INCHES | | MM | | NOTE |
|-----|---------|------|----------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A1 | --- | .004 | --- | 0.100 | |
| A2 | .035 | .039 | 0.900 | 1.000 | |
| b | .006 | .014 | 0.150 | 0.350 | |
| c | .003 | .006 | 0.080 | 0.150 | |
| D | 0.79 | .087 | 2.000 | 2.200 | |
| E | .045 | .053 | 1.150 | 1.350 | |
| E1 | .085 | .096 | 2.150 | 2.450 | |
| e | .026TYP | | 0.650TYP | | |
| e1 | .047 | .055 | 1.200 | 1.400 | |
| L | .021REF | | 0.525REF | | |
| L1 | .010 | .018 | 0.260 | 0.460 | |

NPN DTC144E Electrical characteristics (T_a=25°C)

| Parameter | Symbol | Min. | Typ | Max. | Unit | Conditions |
|----------------------|--------------------------------|------|-----|------|------|--|
| Input voltage | V _{I(off)} | 0.5 | | | V | V _{CC} =5V, I _O =100μA |
| | V _{I(on)} | | | 3 | | V _O =0.3V, I _O =2mA |
| Output voltage | V _{O(on)} | | | 0.3 | V | I _O /I _I =10mA/0.5mA |
| Input current | I _I | | | 0.18 | mA | V _I =5V |
| Output current | I _{O(off)} | | | 0.5 | μA | V _{CC} =50V, V _I =0 |
| DC current gain | G _I | 68 | | | | V _O =5V, I _O =5mA |
| Input resistance | R ₁ | 32.9 | 47 | 61.1 | KΩ | |
| Resistance ratio | R ₂ /R ₁ | 0.8 | 1 | 1.2 | | |
| Transition frequency | f _T | | 250 | | MHz | V _{CE} =10V, I _E =-5mA, f=100MHz |

PNP DTA114Y Electrical characteristics (T_a=25°C)

| Parameter | Symbol | Min. | Typ | Max. | Unit | Conditions |
|----------------------|--------------------------------|------|-----|-------|------|--|
| Input voltage | V _{I(off)} | -0.3 | | | V | V _{CC} =-5V, I _O =-100μA |
| | V _{I(on)} | | | -1.4 | | V _O =-0.3V, I _O =-1mA |
| Output voltage | V _{O(on)} | | | -0.3 | V | I _O /I _I =-5mA/-0.25mA |
| Input current | I _I | | | -0.88 | mA | V _I =-5V |
| Output current | I _{O(off)} | | | -0.5 | μA | V _{CC} =-50V, V _I =0 |
| DC current gain | G _I | 68 | | | | V _O =-5V, I _O =-5mA |
| Input resistance | R ₁ | 7 | 10 | 13 | KΩ | |
| Resistance ratio | R ₂ /R ₁ | 3.7 | 4.7 | 5.7 | | |
| Transition frequency | f _T | | 250 | | MHz | V _{CE} =-10V, I _E =5mA, f=100MHz |



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Ordering Information :

| Device | Packing |
|----------------|--------------------------|
| Part Number-TP | Tape & Reel; 3 Kpcs/Reel |

Note : Adding "-HF" suffix for halogen free, eg. Part Number-TP-HF

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