

### Features

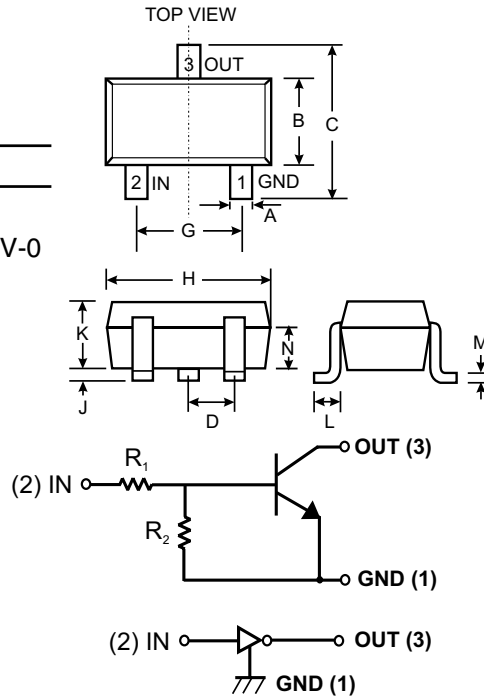
- Epitaxial Planar Die Construction
- Complementary PNP Types Available (DDTA)
- Built-In Biasing Resistors, R1 = R2

### Mechanical Data

- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating 94V-0
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.002 grams (approx.)

P/N	R1, R2 (NOM)	MARKING
DDTC123EE	2.2K	N04
DDTC143EE	4.7K	N08
DDTC114EE	10K	N13
DDTC124EE	22K	N17
DDTC144EE	47K	N20
DDTC115EE	100K	N24

### UNDER DEVELOPMENT



SOT-523			
Dim	Min	Max	Typ
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
All Dimensions in mm			

SCHEMATIC DIAGRAM

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Supply Voltage, (3) to (1)	V <sub>CC</sub>	50	V
Input Voltage, (2) to (1)	V <sub>IN</sub>	-10 to +12 -10 to +30 -10 to +40 -10 to +40 -10 to +40 -10 to +40 -10 to +40	V
Output Current	I <sub>O</sub>	50	mA
Output Current	I <sub>O</sub>	100 100 50 30 100 20	mA
Output Current	I <sub>C</sub> (Max)	100	mA
Power Dissipation	P <sub>d</sub>	150	mW
Operating and Storage and Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°C

**Electrical Characteristics** @  $T_A = 25^\circ\text{C}$  unless otherwise specified

Characteristic		Symbol	Min	Typ	Max	Unit	Test Condition
Input Voltage		$V_{I(\text{off})}$	0.5	1.1	—	V	$V_{CC} = 5V, I_O = 100\mu\text{A}$
		$V_{I(\text{on})}$	—	1.9	3		$V_O = 0.3V, I_O = 20\text{mA}$ , DDTC123EE $V_O = 0.3V, I_O = 20\text{mA}$ , DDTC143EE $V_O = 0.3V, I_O = 10\text{mA}$ , DDTC114EE $V_O = 0.3V, I_O = 5\text{mA}$ , DDTC124EE $V_O = 0.3V, I_O = 2\text{mA}$ , DDTC144EE $V_O = 0.3V, I_O = 1\text{mA}$ , DDTC115EE
Output Voltage		$V_{O(\text{on})}$	—	0.1	0.3	V	$I_O/I_I = 10\text{mA}/0.5\text{mA}$ , DDTC123EE $I_O/I_I = 10\text{mA}/0.5\text{mA}$ , DDTC143EE $I_O/I_I = 10\text{mA}/0.5\text{mA}$ , DDTC114EE $I_O/I_I = 10\text{mA}/0.5\text{mA}$ , DDTC124EE $I_O/I_I = 10\text{mA}/0.5\text{mA}$ , DDTC144EE $I_O/I_I = 5\text{mA}/0.25\text{mA}$ , DDTC115EE
Input Current	DDTC123EE DDTC143EE DDTC114EE DDTC124EE DDTC144EE DDTC115EE	$I_I$	—	—	3.8 1.8 0.88 0.36 0.18 0.15	mA	$V_I = 5V$
Output Current		$I_{O(\text{off})}$	—	—	0.5	$\mu\text{A}$	$V_{CC} = 50V, V_I = 0V$
DC Current Gain	DDTC123EE DDTC143EE DDTC114EE DDTC124EE DDTC144EE DDTC115EE	$G_I$	20 20 30 56 68 82	—	—	—	$V_O = 5V, I_O = 20\text{mA}$ $V_O = 5V, I_O = 10\text{mA}$ $V_O = 5V, I_O = 5\text{mA}$ $V_O = 5V, I_O = 5\text{mA}$ $V_O = 5V, I_O = 5\text{mA}$ $V_O = 5V, I_O = 5\text{mA}$
Resistance Ratio		$R_2/R_1$	0.8	1	1.2	—	—
Gain-Bandwidth Product*		$f_T$	—	250	—	MHz	$V_{CE} = 10V, I_E = 5\text{mA}$ , $f = 100\text{MHz}$

\* Transistor - For Reference Only

UNDER DEVELOPMENT