

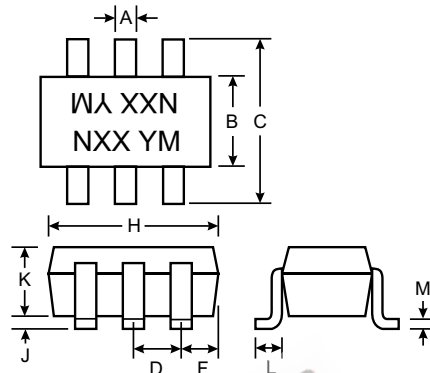
**Features**

- Epitaxial Planar Die Construction
- Complementary PNP Types Available (DDA)
- Built-In Biasing Resistors

**Mechanical Data**

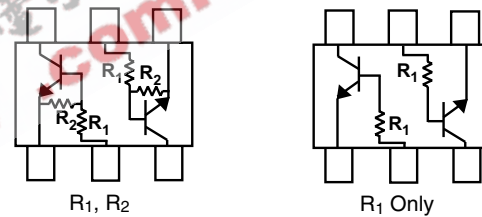
- Case: SOT-363, Molded Plastic
- Case material - UL Flammability Rating 94V-0
- Terminals: Solderable per MIL-STD-202, Method 208
- Terminal Connections: See Diagram
- Weight: 0.006 grams (approx.)

UNDER DEVELOPMENT



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.80	2.20
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
All Dimensions in mm		

P/N	R1	R2	MARKING
DDC124EU	22K	22K	N17
DDC144EU	47K	47K	N20
DDC114YU	10K	47K	N14
DDC123JU	2.2K	47K	N06
DDC114EU	10K	10K	N13
DDC143TU	4.7K	-	N07
DDC114TU	10K	-	N12



SCHMATIC DIAGRAM

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

Characteristic	Symbol	Value	Unit
Supply Voltage, (3) to (1)	$V_{CC}$	50	V
Input Voltage, (2) to (1)	$V_{IN}$	-10 to +40 -10 to +40 -6 to +40 -5 to +12 -10 to +40 -5 $V_{max}$ -5 $V_{max}$	V
Output Current	$I_o$	30 30 70 100 50 100 100	mA
Output Current	$I_c$ (Max)	100	mA
Power Dissipation	$P_d$	200	mW
Operating and Storage and Temperature Range	$T_j, T_{STG}$	-55 to +150	$^\circ\text{C}$

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

Characteristic (DDC143TU & DDC114TU only)	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	$BV_{CBO}$	50	—	—	V	$I_C = 50\mu\text{A}$
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	50	—	—	V	$I_C = 1\text{mA}$
Emitter-Base Breakdown Voltage	$BV_{EBO}$	5	—	—	V	$I_E = 50\mu\text{A}$
Collector Cutoff Current	$I_{CBO}$	—	—	0.5	$\mu\text{A}$	$V_{CB} = 50\text{V}$
Emitter Cutoff Current	$I_{EBO}$	—	—	0.5	$\mu\text{A}$	$V_{EB} = 4\text{V}$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C/I_B = 2.5\text{mA} / 0.25\text{mA}$ DDC143TU $I_C/I_B = 1\text{mA} / 0.1\text{mA}$ DDC114TU
DC Current Transfer Ratio	$h_{FE}$	100	250	600	—	$I_C = 1\text{mA}, V_{CE} = 5\text{V}$
Gain-Bandwidth Product*	$f_T$	—	250	—	MHz	$V_{CE} = 10\text{V}, I_E = -5\text{mA}, f = 100\text{MHz}$

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition	
Input Voltage	$V_{I(off)}$	DDC124EU	0.5	1.1	—	V	$V_{CC} = 5\text{V}, I_O = 100\mu\text{A}$
		DDC144EU	0.5	1.1			
	$V_{I(on)}$	DDC114YU	0.3	—	—	V	$V_O = 0.3, I_O = 5\text{mA}$ $V_O = 0.3, I_O = 2\text{mA}$ $V_O = 0.3, I_O = 1\text{mA}$ $V_O = 0.3, I_O = 5\text{mA}$ $V_O = 0.3, I_O = 10\text{mA}$
		DDC123JU	0.5	—			
		DDC114EU	0.5	1.1			
Output Voltage	$V_{O(on)}$	DDC124EU	—	1.9	3.0	V	$I_O/I_I = 10\text{mA} / 0.5\text{mA}$ $I_O/I_I = 10\text{mA} / 0.5\text{mA}$ $I_O/I_I = 5\text{mA} / 0.25\text{mA}$ $I_O/I_I = 5\text{mA} / 0.25\text{mA}$ $I_O/I_I = 10\text{mA} / 0.5\text{mA}$
		DDC144EU	—	1.9	3.0		
		DDC114YU	—	—	1.4	mA	$V_I = 5\text{V}$
		DDC123JU	—	—	1.1		
		DDC114EU	—	1.9	3.0		
Input Current	$I_I$	—	—	0.36 0.18 0.88 3.6 0.88	mA	$V_I = 5\text{V}$	
Output Current	$I_{O(off)}$	—	—	0.5	$\mu\text{A}$	$V_{CC} = 50\text{V}, V_I = 0\text{V}$	
DC Current Gain	$G_I$	DDC124EU	56	—	—	—	$V_O = 5\text{V}, I_O = 5\text{mA}$ $V_O = 5\text{V}, I_O = 5\text{mA}$ $V_O = 5\text{V}, I_O = 10\text{mA}$ $V_O = 5\text{V}, I_O = 10\text{mA}$ $V_O = 5\text{V}, I_O = 5\text{mA}$
		DDC144EU	68	—	—		
		DDC114YU	68	—	—	MHz	$V_{CE} = 10\text{V}, I_E = 5\text{mA},$ $f = 100\text{MHz}$
		DDC123JU	80	—	—		
		DDC114EU	30	—	—		
Gain-Bandwidth Product*	$f_T$	—	250	—	MHz		

\* Transistor - For Reference Only

UNDER DEVELOPMENT