

# Digital Transistors

## ELECTRICAL CHARACTERISTICS : PNP

### 100 mA Series

BASIC PART NUMBER	V <sub>i(off)</sub>			V <sub>i(on)</sub>			V <sub>o(on)</sub>			I <sub>i</sub>		I <sub>o(off)</sub>			V <sub>CE(sat)</sub>			Cob@F=1MHz			CUT-OFF FREQ			
	Max. (V)	V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	Min. (V)	V <sub>o</sub> (V)	I <sub>o</sub> (mA)	Typ. (V)	Max. (V)	I <sub>o</sub> (mA)	I <sub>i</sub> (mA)	Max. (mA)	V <sub>i</sub> (V)	Max. (μA)	V <sub>CC</sub> (V)	V <sub>i</sub> (V)	Max. (V)	I <sub>c</sub> (mA)	I <sub>B</sub> (mA)	Typ. (pF)	V <sub>CB</sub> (V)	I <sub>E</sub> (mA)	f <sub>T</sub> (MHz)	V <sub>CE</sub> (V)	I <sub>c</sub> (mA)
DTA113Z	0.3	5	0.1	3	0.3	20	0.1	0.3	10	0.5	7.2	5	0.5	50	0	0.3	5	0.25	3.7	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	0.5	50	0	0.3	5	0.25	4.7	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	0.5	50	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	0.5	50	0	0.3	5	0.25	6.2	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	0.5	50	0	0.3	5	0.25	1.6	10	0	250	10	5
DTA115U	3.3	5	0.1	12	0.3	1	0.1	0.3	1	0.2	0.1	5	0.5	50	0	0.3	5	0.25	1.7	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	0.5	50	0	0.3	5	0.25	3.7	10	0	250	10	5
DTA123J	0.5	5	0.1	1.1	0.3	5	0.1	0.3	5	0.25	3.6	5	0.5	50	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	0.5	50	0	0.3	5	0.25	3.7	10	0	250	10	5
DTA124E	0.5	5	0.1	3	0.3	5	0.1	0.3	10	0.5	0.36	5	0.5	50	0	0.3	5	0.25	4.4	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	0.5	50	0	0.3	5	0.25	4.4	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	0.5	50	0	0.3	5	0.25	6.0	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	0.5	50	0	0.3	5	0.25	6.0	10	0	250	10	5
DTA143Y	0.3	5	0.1	2.2	0.3	5	0.1	0.3	10	0.5	1.8	5	0.5	50	0	0.3	5	0.25	4.6	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	0.5	50	0	0.3	5	0.25	3.4	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	0.5	50	0	0.3	5	0.25	2.9	10	0	250	10	5
DTA144V	1.0	5	0.1	6	0.3	2	0.1	0.3	10	0.5	0.16	5	0.5	50	0	0.3	5	0.25	2.8	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	0.5	50	0	0.3	5	0.25	2.9	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	0.5	50	0	0.3	5	0.25	6.1	10	0	250	10	5
DTA1D3R	1.5	5	0.1	4	0.3	5	0.1	0.3	10	1	3.7	5	0.5	50	0	0.3	5	0.25	3.5	10	0	250	10	5

BASIC PART NUMBER	BV <sub>CEO</sub>		BV <sub>CBO</sub>		BV <sub>EBO</sub>		I <sub>CBO</sub> Max. (μA)	V <sub>CB</sub> (V)	I <sub>EBO</sub>		V <sub>CE(sat)</sub>			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I <sub>c</sub> (mA)	Min. (V)	I <sub>c</sub> (μA)	Min. (V)	I <sub>E</sub> (μA)			Max. (μA)	V <sub>EB</sub> (V)	Max. (V)	I <sub>c</sub> (mA)	I <sub>B</sub> (mA)	Typ. (pF)	V <sub>CB</sub> (V)	I <sub>E</sub> (mA)	f <sub>T</sub> (MHz)	V <sub>CE</sub> (V)	I <sub>c</sub> (mA)
DTA143T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.25	6.1	10	0	250	10	5
DTA114T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	10	1	6.1	10	0	250	10	5
DTA124T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.5	6.1	10	0	250	10	5
DTA144T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.5	6.1	10	0	250	10	5
DTA115T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	1	0.1	1.5	10	0	250	10	5
DTA125T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	0.5	0.05	1.4	10	0	250	10	5
DTA113T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.25	6.1	10	0	250	10	5

BASIC PART NUMBER	BV <sub>CEO</sub>		BV <sub>CBO</sub>		BV <sub>EBO</sub>		I <sub>CBO</sub> Max. (μA)	V <sub>CB</sub> (V)	I <sub>EBO</sub>		V <sub>CE(sat)</sub>			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I <sub>c</sub> (mA)	Min. (V)	I <sub>c</sub> (μA)	Min. (V)	I <sub>E</sub> (μA)			Max. (μA)	V <sub>EB</sub> (V)	Max. (V)	I <sub>c</sub> (mA)	I <sub>B</sub> (mA)	Typ. (pF)	V <sub>CB</sub> (V)	I <sub>E</sub> (mA)	f <sub>T</sub> (MHz)	V <sub>CE</sub> (V)	I <sub>c</sub> (mA)
DTA114G	50	1	50	50	5	720	0.5	50	580	4	0.3	10	0.5	3.7	10	0	250	10	5
DTA124G	50	1	50	50	5	330	0.5	50	260	4	0.3	10	0.5	3.7	10	0	250	10	5
DTA144G	50	1	50	50	5	160	0.5	50	130	4	0.3	10	0.5	3.7	10	0	250	10	5
DTA115G	50	1	50	50	5	72	0.5	50	58	4	0.3	5	0.25	3.7	10	0	250	10	5
DTB114G	50	1	50	50	5	720	0.5	50	580	4	0.3	10	0.5	6.8	10	0	200	10	50

### 500 mA Series

BASIC PART NUMBER	V <sub>i(off)</sub>			V <sub>i(on)</sub>			V <sub>o(on)</sub>			I <sub>i</sub>		I <sub>o(off)</sub>			V <sub>CE(sat)</sub>			Cob@F=1MHz			CUT-OFF FREQ			
	Max. (V)	V <sub>CC</sub> (V)	I <sub>o</sub> (mA)	Min. (V)	V <sub>o</sub> (V)	I <sub>o</sub> (mA)	Typ. (V)	Max. (V)	I <sub>o</sub> (mA)	I <sub>i</sub> (mA)	Max. (mA)	V <sub>i</sub> (V)	Max. (μA)	V <sub>CC</sub> (V)	V <sub>i</sub> (V)	Max. (V)	I <sub>c</sub> (mA)	I <sub>B</sub> (mA)	Typ. (pF)	V <sub>CB</sub> (V)	I <sub>E</sub> (mA)	f <sub>T</sub> (MHz)	V <sub>CE</sub> (V)	I <sub>c</sub> (mA)
DTB113E	0.5	5	0.1	3	0.3	20	0.1	0.3	50	2.5	7.2	5	0.5	50	0	0.3	5	0.25	6.6	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	0.5	50	0	0.3	5	0.25	7.1	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	0.5	50	0	0.3	5	0.25	7.2	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	0.5	50	0	0.3	5	0.25	8.1	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	0.5	50	0	0.3	5	0.25	8.0	10	0	200	10	50
DTB123Y	0.3	5	0.1	2	0.3	20	0.1	0.3	50	2.5	3.6	5	0.5	50	0	0.3	5	0.25	8.2	10	0	200	10	50
DTB122J	0.3	5	0.1	2	0.3	30	0.1	0.3	50	2.5	45	5	0.5	50	0	0.3	5	0.25	8.0	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	0.5	50	0	0.3	5	0.25	7.7	10	0	200	10	50

BASIC PART NUMBER	BV <sub>CEO</sub>		BV <sub>CBO</sub>		BV <sub>EBO</sub>		I <sub>CBO</sub> Max. (μA)	V <sub>CB</sub> (V)	I <sub>EBO</sub>		V <sub>CE(sat)</sub>			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I <sub>c</sub> (mA)	Min. (V)	I <sub>c</sub> (μA)	Min. (V)	I <sub>E</sub> (μA)			Max. (μA)	V <sub>EB</sub> (V)	Max. (V)	I <sub>c</sub> (mA)	I <sub>B</sub> (mA)	Typ. (pF)	V <sub>CB</sub> (V)	I <sub>E</sub> (mA)	f <sub>T</sub> (MHz)	V <sub>CE</sub> (V)	I <sub>c</sub> (mA)
DTB123T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	6.9	10	0	200	10	50
DTB143T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	7.5	10	0	200	10	50
DTB163T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	7.2	10	0	200	10	50
DTB114T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	6.7	10	0	200	10	50

## ELECTRICAL CHARACTERISTICS : 100 mA Series

BASIC PART NUMBER	RESISTOR VALUE		R2/R1			Ic Max. (mA)	INPUT VOLT		G <sub>i</sub> Min.	V <sub>O</sub> (V)	I <sub>o</sub> (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)	Min.	Typ.	Max.		Min.	Max.					
DTA113Z	1.0	10.0	8	10	12	100	-10	5	33	5	5	E11/111	
DTA114E	10.0	10.0	0.8	1	1.2	100	-40	10	30	5	5	14	
DTA114W	10.0	4.7	0.37	0.47	0.57	100	-30	10	24	5	10	74	
DTA114Y	10.0	47.0	3.7	4.7	5.7	100	-40	6	68	5	5	54	
DTA115E	100.0	100.0	0.8	1	1.2	100	-40	10	82	5	5	19	
DTA115U	100.0	10.0	0.08	0.1	0.12	100	-40	40	27	5	5	E79/179	
DTA123E	2.2	2.2	0.8	1	1.2	100	-12	10	20	5	20	12	
DTA123J	2.2	47.0	17	21	26	100	-12	5	80	5	10	E32/132	
DTA123Y	2.2	10.0	3.6	4.5	5.5	100	-12	5	33	5	10	52	
DTA124E	22.0	22.0	0.8	1	1.2	100	-40	10	56	5	5	15	
DTA124X	22.0	47.0	1.7	2.1	2.6	100	-40	10	68	5	5	35	
DTA143E	4.7	4.7	0.8	1	1.2	100	-30	10	20	5	10	13	
DTA143X	4.7	10.0	1.7	2.1	2.6	100	-20	7	30	5	10	33	
DTA143Y	4.7	22.0	3.7	4.7	5.7	100	-30	6	56	5	5	53	
DTA143Z	4.7	47.0	8	10	12	100	-30	5	80	5	10	E13/113	
DTA144E	47.0	47.0	0.8	1	1.2	100	-40	10	68	5	5	16	
DTA144V	47.0	10.0	0.17	0.21	0.26	100	-40	15	33	5	5	E56/156	
DTA144W	47.0	22.0	0.37	0.47	0.57	100	-40	10	56	5	5	76	
DTA214Y	10.0	47.0	3.7	4.7	5.7	100	-40	6	68	5	5	N14	
DTA1D3R	2.7	1.0	0.29	0.37	0.45	100	-15	15	20	5	30	K3B	

BASIC PART NUMBER	RESISTOR VALUE		V <sub>CB0</sub> Max. (V)	V <sub>CE0</sub> Max. (V)	V <sub>EB0</sub> Max. (V)	Ic Max. (mA)	h <sub>FE</sub>			V <sub>CE</sub> (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)					Min.	Typ.	Max.				
DTA143T	4.7	NONE	50	50	5	100	100	250	600	5	1	93	
DTA114T	10.0	NONE	50	50	5	100	100	250	600	5	1	94	
DTA124T	22.0	NONE	50	50	5	100	100	250	600	5	1	95	
DTA144T	47.0	NONE	50	50	5	100	100	250	600	5	1	96	
DTA115T	100.0	NONE	50	50	5	100	100	250	600	5	1	99	
DTA125T	200.0	NONE	50	50	5	100	100	250	600	5	1	9A	
DTA113T	1.0	NONE	50	50	5	100	100	250	600	5	1	91	

BASIC PART NUMBER	RESISTOR VALUE		V <sub>CB0</sub> Max. (V)	V <sub>CE0</sub> Max. (V)	V <sub>EB0</sub> Max. (V)	Ic Max. (mA)	h <sub>FE</sub>			V <sub>CE</sub> (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)					Min.	Typ.	Max.				
DTA114G	0	10.0	50	50	5	100	30	-	-	5	5	K14	
DTA124G	0	22.0	50	50	5	100	56	-	-	5	5	K15	
DTA144G	0	47.0	50	50	5	100	68	-	-	5	5	K16	
DTA115G	0	100.0	50	50	5	100	82	-	-	5	5	K19	
DTB114G	0	10.0	50	50	5	500	56	-	-	5	100	L14	

## ELECTRICAL CHARACTERISTICS : 500 mA Series

BASIC PART NUMBER	RESISTOR VALUE		R2/R1			Ic Max. (mA)	INPUT VOLT		G <sub>i</sub> Min.	V <sub>O</sub> (V)	I <sub>o</sub> (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)	Min.	Typ.	Max.		Min.	Max.					
DTB113E	1.0	1.0	0.8	1	1.2	500	-10	10	33	5	50	F11	
DTB113Z	1.0	10.0	8	10	12	500	-10	5	56	5	50	G11	
DTB114E	10.0	10.0	0.8	1	1.2	500	-40	10	56	5	50	F14	
DTB123E	2.2	2.2	0.8	1	1.2	500	-12	10	39	5	50	F12	
DTB143E	4.7	4.7	0.8	1	1.2	500	-30	10	47	5	50	F13	
DTB123Y	2.2	10.0	3.6	4.5	5.5	500	-12	5	56	5	50	F52	
DTB122J	0.22	4.7	17.1	21.3	25.6	500	-5	5	47	5	50	G3C	
DTB133H	3.3	10.0	2.4	3	3.7	500	-20	6	56	5	50	G98	

BASIC PART NUMBER	RESISTOR VALUE		V <sub>CB0</sub> Max. (V)	V <sub>CE0</sub> Max. (V)	V <sub>EB0</sub> Max. (V)	Ic Max. (mA)	h <sub>FE</sub>			V <sub>CE</sub> (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)					Min.	Typ.	Max.				
DTB123T	2.2	NONE	50	40	5	500	100	250	600	5	50	F92	
DTB143T	4.7	NONE	50	40	5	500	100	250	600	5	50	F93	
DTB163T	6.8	NONE	50	40	5	500	100	250	600	5	50	F97	
DTB114T	10.0	NONE	50	40	5	500	100	250	600	5	50	F94	