

Digital Transistors

ELECTRICAL CHARACTERISTICS : NPN

■ 100 mA Series

BASIC PART NUMBER	V _{i(off)}			V _{o(on)}			V _{o(on)}			I _i		I _{o(off)}			V _{CE(sat)}			Cob@F=1MHz			CUT-OFF FREQ			
	Max. (V)	V _{CC} (V)	I _o (mA)	Min. (V)	V _o (V)	I _o (mA)	Typ. (V)	Max. (V)	I _o (mA)	I _i (mA)	Max. (mA)	V _i (V)	Max. (μA)	V _{CC} (V)	V _i (V)	Max. (V)	I _c (mA)	I _B (mA)	Typ. (pF)	V _{CB} (V)	I _E (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
DTC113Z	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	3.8	10	0	250	10	5
DTC114E	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	4.6	10	0	250	10	5
DTC114W	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
DTC114Y	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	5.6	10	0	250	10	5
DTC115E	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
DTC115U	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
DTC123E	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
DTC123J	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	3.5	10	0	250	10	5
DTC123Y	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
DTC124E	0.5	5	0.1	3	0.2	5	0.1	0.3	10	0.5	0.36	5	0.5	50	0	0.3	5	0.25	4.3	10	0	250	10	5
DTC124X	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	4.3	10	0	250	10	5
DTC143E	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	10	0	250	10	5
DTC143X	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	10	0	250	10	5
DTC143Y	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
DTC143Z	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	3.5	10	0	250	10	5
DTC144E	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	3	10	0	250	10	5
DTC144V	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
DTC144W	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
DTC1D3R	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 _{CEO}		BV _{CBO}		BV _{EBO}		I _{CBO} Max. (μA)	V _{CB} (V)	I _{EBO}		V _{CE(sat)}			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I _c (mA)	Min. (V)	I _c (μA)	Min. (V)	I _E (μA)			Max. (μA)	V _{EB} (V)	Max. (V)	I _c (mA)	I _B (mA)	Typ. (pF)	V _{CB} (V)	I _E (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
DTC143T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.25	6.1	10	0	250	10	5
DTC114T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	10	1	6.1	10	0	250	10	5
DTC124T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.5	6.1	10	0	250	10	5
DTC144T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	5	0.5	6.1	10	0	250	10	5
DTC115T	50	1	50	50	5	50	0.5	50	0.5	4	0.3	1	0.1	1.7	10	0	250	10	5
DTC125T	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

BASIC PART NUMBER	BV _{CEO}		BV _{CBO}		BV _{EBO}		I _{CBO} Max. (μA)	V _{CB} (V)	I _{EBO}		V _{CE(sat)}			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I _c (mA)	Min. (V)	I _c (μA)	Min. (V)	I _E (μA)			Max. (μA)	V _{EB} (V)	Max. (V)	I _c (mA)	I _B (mA)	Typ. (pF)	V _{CB} (V)	I _E (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
DTC114G	50	1	50	50	5	720	0.5	50	580	4	0.3	10	0.5	3.7	10	0	250	10	5
DTC124G	50	1	50	50	5	330	0.5	50	260	4	0.3	10	0.5	3.7	10	0	250	10	5
DTC144G	50	1	50	50	5	160	0.5	50	130	4	0.3	10	0.5	3.7	10	0	250	10	5
DTC115G	50	1	50	50	5	72	0.5	50	58	4	0.3	5	0.25	3.7	10	0	250	10	5
DTD114G	50	1	50	50	5	720	0.5	50	580	4	0.3	50	2.5	6.8	10	0	200	10	50

■ 500 mA Series

BASIC PART NUMBER	V _{i(off)}			V _{o(on)}			V _{o(on)}			I _i		I _{o(off)}			V _{CE(sat)}			Cob@F=1MHz			CUT-OFF FREQ			
	Max. (V)	V _{CC} (V)	I _o (mA)	Min. (V)	V _o (V)	I _o (mA)	Typ. (V)	Max. (V)	I _o (mA)	I _i (mA)	Max. (mA)	V _i (V)	Max. (μA)	V _{CC} (V)	V _i (V)	Max. (V)	I _c (mA)	I _B (mA)	Typ. (pF)	V _{CB} (V)	I _E (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
DTD113E	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	6.8	10	0	200	10	50
DTD113Z	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	6.9	10	0	200	10	50
DTD114E	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	6.7	10	0	200	10	50
DTD123E	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	7.3	10	0	200	10	50
DTD143E	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	7.1	10	0	200	10	50
DTD123Y	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	7.2	10	0	200	10	50
DTD122J	0.3	5	0.1	2	0.3	30	0.1	0.3	50	2.5	4.5	5	0.5	50	0	0.3	5	0.25	7.0	10	0	200	10	50
DTD133H	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	6.8	10	0	200	10	50

BASIC PART NUMBER	BV _{CEO}		BV _{CBO}		BV _{EBO}		I _{CBO} Max. (μA)	V _{CB} (V)	I _{EBO}		V _{CE(sat)}			Cob@F=1MHz			CUT-OFF FREQ		
	Min. (V)	I _c (mA)	Min. (V)	I _c (μA)	Min. (V)	I _E (μA)			Max. (μA)	V _{EB} (V)	Max. (V)	I _c (mA)	I _B (mA)	Typ. (pF)	V _{CB} (V)	I _E (mA)	f _T (MHz)	V _{CE} (V)	I _c (mA)
DTD123T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	7.0	10	0	200	10	50
DTD143T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	6.7	10	0	200	10	50
DTD163T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	6.6	10	0	200	10	50
DTD114T	40	1	50	50	5	50	0.5	50	0.5	4	0.3	50	2.5	6.4	10	0	200	10	50

ELECTRICAL CHARACTERISTICS : 100 mA Series

BASIC PART NUMBER	RESISTOR VALUE		R2/R1			Ic Max. (mA)	INPUT VOLT		G _i Min.	V _O (V)	I _O (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)	Min.	Typ.	Max.		Min.	Max.					
DTC113Z	1.0	10.0	8	10	12	100	-5	10	33	5	5	E21/121	
DTC114E	10.0	10.0	0.8	1	1.2	100	-10	40	30	5	5	24	
DTC114W	10.0	4.7	0.37	0.47	0.57	100	-10	30	24	5	10	84	
DTC114Y	10.0	47.0	3.7	4.7	5.7	100	-6	40	68	5	5	64	
DTC115E	100.0	100.0	0.8	1	1.2	100	-10	40	82	5	5	29	
DTC115U	100.0	10.0	0.08	0.1	0.12	100	-40	40	27	5	5	E89/183	
DTC123E	2.2	2.2	0.8	1	1.2	100	-10	12	20	5	20	22	
DTC123J	2.2	47.0	17	21	26	100	-5	12	80	5	10	E42/142	
DTC123Y	2.2	10.0	3.6	4.5	5.5	100	-5	12	33	5	10	62	
DTC124E	22.0	22.0	0.8	1	1.2	100	-10	40	56	5	5	25	
DTC124X	22.0	47.0	1.7	2.1	2.6	100	-10	40	68	5	5	45	
DTC143E	4.7	4.7	0.8	1	1.2	100	-10	30	20	5	10	23	
DTC143X	4.7	10.0	1.7	2.1	2.6	100	-7	20	30	5	10	43	
DTC143Y	4.7	22.0	3.7	4.7	5.7	100	-6	30	56	5	5	63	
DTC143Z	4.7	47.0	8	10	12	100	-5	30	80	5	10	E23/123	
DTC144E	47.0	47.0	0.8	1	1.2	100	-10	40	68	5	5	26	
DTC144V	47.0	10.0	0.17	0.21	0.26	100	-10	40	33	5	5	E66/166	
DTC144W	47.0	22.0	0.37	0.47	0.57	100	-10	40	56	5	5	86	
DTC1D3R	2.7	1.0	0.29	0.37	0.45	100	-15	15	20	5	30	K4B	

BASIC PART NUMBER	RESISTOR VALUE		V _{CB0} Max. (V)	V _{CEO} Max. (V)	V _{EB0} Max. (V)	Ic Max. (mA)	Min.	h _{FE}		V _{CE} (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)						Typ.	Max.				
DTC143T	4.7	NONE	50	50	5	100	100	250	600	5	1	03	
DTC144T	10.0	NONE	50	50	5	100	100	250	600	5	1	04	
DTC124T	22.0	NONE	50	50	5	100	100	250	600	5	1	05	
DTC144T	47.0	NONE	50	50	5	100	100	250	600	5	1	06	
DTC115T	100.0	NONE	50	50	5	100	100	250	600	5	1	09	
DTC125T	200.0	NONE	50	50	5	100	100	250	600	5	1	0A	

BASIC PART NUMBER	RESISTOR VALUE		V _{CB0} Max. (V)	V _{CEO} Max. (V)	V _{EB0} Max. (V)	Ic Max. (mA)	Min.	h _{FE}		V _{CE} (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)						Typ.	Max.				
DTC114G	0	10.0	50	50	5	100	30	-	-	5	5	K24	
DTC124G	0	22.0	50	50	5	100	56	-	-	5	5	K25	
DTC144G	0	47.0	50	50	5	100	68	-	-	5	5	K26	
DTC115G	0	100.0	50	50	5	100	82	-	-	5	5	K29	
DTD114G	0	10.0	50	50	5	500	56	-	-	5	100	L24	

ELECTRICAL CHARACTERISTICS : 500 mA Series

BASIC PART NUMBER	RESISTOR VALUE		R2/R1			Ic Max. (mA)	INPUT VOLT		G _i Min.	V _O (V)	I _O (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)	Min.	Typ.	Max.		Min.	Max.					
DTD113E	1.0	1.0	0.8	1	1.2	500	-10	10	33	5	50	F21	
DTD113Z	1.0	10.0	8	10	12	500	-5	10	56	5	50	G21	
DTD114E	10.0	10.0	0.8	1	1.2	500	-10	40	56	5	50	F24	
DTD123E	2.2	2.2	0.8	1	1.2	500	-10	12	39	5	50	F22	
DTD143E	4.7	4.7	0.8	1	1.2	500	-10	30	47	5	50	F23	
DTD123Y	2.2	10.0	3.6	4.5	5.5	500	-5	12	56	5	50	F62	
DTD122J	0.22	4.7	17.1	21.3	25.6	500	-5	5	47	5	50	G4C	
DTD133H	3.3	10.0	2.4	3	3.7	500	-6	20	56	5	50	G08	

BASIC PART NUMBER	RESISTOR VALUE		V _{CB0} Max. (V)	V _{CEO} Max. (V)	V _{EB0} Max. (V)	Ic Max. (mA)	Min.	h _{FE}		V _{CE} (V)	Ic (mA)	PART MARK	EQUIVALENT CIRCUIT
	R1 (kΩ)	R2 (kΩ)						Typ.	Max.				
DTD123T	2.2	NONE	50	40	5	500	100	250	600	5	50	F02	
DTD143T	4.7	NONE	50	40	5	500	100	250	600	5	50	F03	
DTD163T	6.8	NONE	50	40	5	500	100	250	600	5	50	F07	
DTD114T	10.0	NONE	50	40	5	500	100	250	600	5	50	F04	