

Discrete Devices

Transistors (Cont.)

Choppers

Type	Polarity	Maximum Ratings				Electrical Characteristics @ 25°C								C _{ob} pF Max	Package
		P _D Ambient mW	V _{CE} Volts	V _{CE} Volts	V _{EB} Volts	HFE @ I _C		V _{CE} (Sat) @ I _C /I _B		V _O @ I _B		r _d @ I _B			
						Min/Max	mA	Volts	mA/mA	mV	mA	Ohms	mA		
2N943	PNP	250	40	18	40	10/-	0.1	-	-	2.0	0.5	-	-	14	TO-18
2N2004	PNP	250	50	15	50	-	-	-	-	-	-	30	1.0	20	TO-39
2N2333	PNP	150	15	15	5	-	-	-	-	2.75	0.2	50	1.0	20	TO-18
2N2944	PNP	400	15	10	15	80/-	1.0	0.3*	10/2	0.6	1.0	20	1.0	10	TO-46
2N2945	PNP	400	25	20	25	40/-	1.0	0.3*	10/2	1.0	1.0	35	1.0	10	TO-46
2N2945A	PNP	400	25	20	25	70/-	1.0	0.3*	10/2	0.5	0.2	6	1.0	10	TO-46
2N2946	PNP	400	40	35	40	30/-	1.0	0.3*	10/2	2.0	1.0	45	1.0	10	TO-46
2N2946A	PNP	400	40	35	40	50/-	1.0	0.3*	10/2	0.8	0.2	8	1.0	10	TO-46
2N3217	PNP	400	15	10	15	30/-	1.0	0.3*	10/2	1.0	0.2	30	1.0	14	TO-46
2N3218	PNP	400	25	20	25	30/-	1.0	0.3*	10/2	2.0	0.2	50	1.0	14	TO-46
2N3219	PNP	400	40	35	40	20/-	1.0	0.3*	10/2	3.0	0.2	60	1.0	14	TO-46
2N3910	PNP	500	60	50	50	40/160	1.0	0.3	10/2	0.8	0.2	15	1.0	8	TO-46
2N3911	PNP	500	60	40	40	60/240	1.0	0.3	10/2	0.5	0.2	10	1.0	8	TO-46
2N3913	PNP	400	60	50	50	40/160	1.0	0.3	10/2	0.8	0.2	15	1.0	8	TO-18
2N3914	PNP	400	60	40	40	60/240	1.0	0.3	10/2	0.5	0.2	10	1.0	8	TO-18

*Typical Values

UHF Amplifiers

Type	Polarity	Maximum Ratings				Electrical Characteristics @ 25°C										Package
		P _D Ambient mW	V _{CB} Volts	V _{CE} Volts	V _{EB} Volts	HFE @ I _C		f _t MHz Min	C _{ob} pF Max	G _{PE} @ f		P _O @ f		NF @ f		
						Min/Max	mA			dB Min	MHz	mW Min	MHz	dB Max	MHz	
2N869A	PNP	360	25	18	5	40/120	30	400	6	-	-	-	-	-	-	TO-18
2N915	NPN	360	70	50	5	50/200	10	250	3.5	10*	100	-	-	2	1.0	TO-18
2N916	NPN	360	45	25	5	50/200	10	300	6.0	10*	100	-	-	2	1.0	TO-18
2N917	NPN	200	30	15	3	20/200	3	500	1.7	9	200	10	500	6	60.0	TO-72
2N917A	NPN	200	30	15	3	20/200	3	600	1.7	15	200	20	500	6	60.0	TO-72
2N918	NPN	200	30	15	3	20/-	3	600	1.7	15	200	30	500	6	60.0	TO-72
2N957	NPN	250	40	20	5	45/-	10	200	6.0	10*	100	-	-	2	1.0	TO-18
2N2708	NPN	200	35	20	3	30/200	2	700	1.0	15	200	20*	500	7.5	200.0	TO-72
2N2865	NPN	200	25	13	3	20/200	4	600	2.5	16.5	200	40	500	4.5	200.0	TO-72
2N2894	PNP	360	12	12	4	40/150	30	400	6	-	-	-	-	-	-	TO-18
2N3012	PNP	360	12	12	4	30/120	30	400	6	-	-	-	-	-	-	TO-18
2N3209	PNP	360	20	20	4	30/120	30	400	5	-	-	-	-	-	-	TO-18
2N3545	PNP	360	20	20	5	40/120	10	250	8	-	-	-	-	-	-	TO-18
2N3959	NPN	400	20	12	4.5	40/400	10	1300	2.5	-	-	-	-	-	-	TO-18
2N3960	NPN	400	20	12	4.5	40/400	10	1600	2.5	-	-	-	-	-	-	-
2N4208	PNP	350	12	12	4.5	30/120	0.3	700	3	-	-	-	-	-	-	TO-18
2N4209	PNP	350	15	15	4.5	50/120	0.3	850	3	-	-	-	-	-	-	TO-18
2N4260	PNP	200	15	15	4.5	30/150	10	1600	2.5	-	-	-	-	-	-	TO-72
2N4261	PNP	200	15	15	4.5	30/150	10	2000	2.5	-	-	-	-	-	-	TO-72

*Typical Values

Discrete Devices

Beam Lead Chips

Transistor Chips

Function	Polarity	Type	Similar EIA Type	100% Probed Parameters @ 25°C (Partial List)								f _t MHz	Mech. Outline Dwg.	Ident. Code ¹
				BVCBO Volts	BVCEO Volts	BVEBO Volts	HFE @ I _C		VCE(Sat) @ I _C /I _B					
				Min @ 10 μA	Min @ 10 mA	Min @ 10 μA	Min/Max	mA	Volts Max	mA/mA				
Low Level Amplifier	NPN	BT929	2N929	45	45	5	40/120	0.01	0.35	1/0.1	60	1	RL	
	NPN	BT930	2N930	45	45	5	100/500	0.01	0.35	1/0.1	60	1	RL	
	NPN	BT2483	2N2483	60	60	6	40/120	0.01	0.35	1/0.1	60	1	RL	
	NPN	BT2484	2N2484	60	60	6	100/500	0.01	0.35	1/0.1	60	1	RL	
	PNP	BT2604	2N2604	60	45	6	40/120	0.01	0.5	10/0.5	80	1	SP	
	PNP	BT2605	2N2605	60	45	6	100/300	0.01	0.5	10/0.5	100	1	SP	
	PNP	BT3250A	2N3250A	60	60	5	50/150	10.0	0.5	50/5.0	250	1	SD	
	PNP	BT3906	2N3906	40	40	5	100/300	10.0	0.4	50/5.0	250	1	SD	
Medium Current Amplifiers	NPN	BT2222	2N2222	60	30	5	100/300	150	1.6	500/50	250	1	RB	
	NPN	BT2222A	2N2222A	75	40	6	100/300	150	1.0	500/50	300	1	RB	
	PNP	BT2907	2N2907	60	40	5	100/300	150	1.6	500/50	200	1	SB	
	PNP	BT2907A	2N2907A	60	60	5	100/300	150	1.6	500/50	200	1	SB	
	NPN	BT3700	2N3700	140 @ 0.1 mA	80 @ 30 mA	7 @ 0.1 mA	100/300	150	0.5	500/50	100	2	RG	
RF/UHF Amplifiers	NPN	BT918	2N918	30 @ 1 μA	15 @ 3 mA	3	20/-	3	0.4	10/1.0	600	1	RV	
	NPN	BT2708	2N2708	35 @ 1 μA	20 @ 3 mA	3	30/200	2	0.4	10/1.0	-	1	RV	
	NPN	BT3960	2N3960	20	12	4.5	40/200	10	0.3	30/3.0	1600	1	RC	
	PNP	BT4260	2N4260	15	15	4.5	30/150	10	0.35	10/1.0	1600	1	SC	
	NPN	BT5109	2N5109	40	20 @ 5 mA	3	40/120	350	-	-	1200	1	RE	
High-Speed Switches	NPN	BT708	2N708	40	15	5	30/120	10	0.4	10/1.0	500	1	RJ	
	NPN	BT2369A	2N2369A	40	15	5	40/120	10	0.5	100/10	500	1	RJ	
	NPN	BT3227	2N3227	40	20	6	100/300	10	0.5	100/10	500	1	RJ	
High-Voltage Switches	NPN	BT3501	2N3501	140	140	6	100/300	150	0.5	150/15	100	2	RF	
	PNP	BT3635	2N3635	140	140	6	100/300	150	0.5	150/15	100	2	SF	
Core Driver	NPN	BT3725	2N3725	80	50	6	60/150	100	0.95	1000/100	300	2	RK	
Choppers	PNP	BT2944	2N2944	15 @ 0.1 nA	-	15 @ 0.1 nA	80/-	1.0	0.2	10/2.0	-	1	SY	
	PNP	BT2946	2N2946	40 @ 0.5 nA	-	40 @ 0.5 nA	30/-	1.0	0.2	10/2.0	-	1	SY	
Power	NPN	BT3999	2N3999	100 @ 0.1 mA	50 @ 30 mA	6 @ 0.1 mA	40/-	1000	0.7	1000/100	-	3	RH	

1. This Identification Code is etched into the back of the chip.

FET Chips

Raytheon Type	Similar EIA Type	BV _{GSS} I _G = -1 μA Volts	I _{GSS} V _{GSS} = -20V pA	I _{DSS} V _{DS} = 15V mA Min/Max	V _p V _{DS} = 15V, I _D = 0.5 nA Volts Min/Max	r _{ds(on)} V _{GS} = 0, f = 1 kHz Ohms	V _{DS(ON)} V _{GS} = 0		Mech. Outline Dwg.	Ident Code ¹
							Max Volts	I _D = mA		
BT4856	2N4856	-40	-250	50/-	-4/-10	25	0.75	20	1	NC
BT4857	2N4857	-40	-250	20/100	-2/-6	40	0.5	10	1	NC
BT4858	2N4858	-40	-250	8/80	-0.8/4	60	0.5	5	1	NC

1. This Identification Code is etched into the back of the chip.