



Fig.	V _{ceo} (V)	I _c (mA)	Min. HFE	Digi-Key Part No.	1	Pricing 25	100	Tape and Reels Qty.	Pricing
NPN Transistors									
TO-92									
15	50	20		2N5770-ND	.17	3.24	9.34		
15	200	20		2N5769-ND	.17	3.09	8.92		
15	200	20		PN2369-ND	.14	2.61	7.55		
15	200	18		PN4275-ND	.14	2.61	7.55		
15	200	20		PN2369A-ND	.14	2.61	7.55		
15	300	15		2N5772-ND	.16	2.94	8.49		
20	1,200	20,000		MPSA12-ND	.20	3.79	10.95		
25	50	60		MPSH10FS-ND*	.23	4.29	11.89		
25	100	400		2N5089BU-ND	.08	1.47	4.25		
25	100	150		MPS2924-ND	.30	6.00	16.47		
25	200	60		2N4124BU-ND	.08	1.55	4.49		
25	200	150		MPS6515-ND	.17	3.14	9.06		
25	200	15		PN1535-ND	.23	4.54	12.78		
25	500	100		2N5172_D26ZCT-ND**	.15	2.86	8.26	2,000	34.12/M
25	500	150		PN3565-ND	.15	2.85	8.21		
30	100	300		2N5088BU-ND	.08	1.55	4.49		
30	200	25		2N4123-ND	.08	1.52	4.39		
30	500	100		2N3704-ND†	.15	2.86	8.26		
30	600	35		PN2222BU-ND	.08	1.55	4.49		
30	600	80		PN3566-ND	.15	2.81	8.12		
30	1,200	5,000		MPSA13-ND	.20	3.79	10.95		
30	1,200	10,000		MPSA14-ND	.20	3.79	10.95		
30	500	100		BC184C-ND‡	.15	2.91	8.40		
30	500	100		BC184L-ND†	.15	2.91	8.40		
30	1,200	30,000		BC517-ND‡	.18	3.43	9.91		
30	100	420		BC546C-ND‡	.15	2.91	8.40		
30	100	110		BC549-ND‡	.15	2.91	8.40		
40	200	40		2N3904FS-ND	.08	1.47	4.25		
40	200	30		2N3904D26ZCT-ND	.08	1.47	4.25	2,000	17.64/M
40	200	30		2N3904TFCT-ND‡	.08	1.47	4.25	2,000	17.43/M
40	500	100		PN3569-ND	.15	2.81	8.12		
40	600	20		2N4400-ND	.09	1.62	4.68		
40	600	20		2N4401-ND	.09	1.62	4.68		
40	600	20		2N4401D26ZCT-ND	.09	1.62	4.68	2,000	19.41/M
40	600	20		2N4401D75ZCT-ND	.09	1.62	4.68	2,000	19.41/M
40	600	20		2N4401TFCT-ND‡	.09	1.62	4.68	2,000	19.60/M
40	600	40		PN3567-ND	.15	2.81	8.12		
40	1,000	35		PN2222AFS-ND	.08	1.55	4.49		
40	1,000	35		PN2222AD26ZCT-ND	.09	1.62	4.68	2,000	19.41/M
45	100	400		MPSA18-ND	.18	3.38	9.77		
45	100	80		PN100RMCT-ND	.15	2.85	8.21	2,000	34.11/M
45	800	60		BC337-ND‡	.23	4.23	11.74		
45	800	100		BC33725-ND‡	.23	4.23	11.74		
45	800	100		BC33725TACT-ND‡	.10	1.84	5.34	2,000	22.15/M
45	800	170		BC33740TACT-ND‡	.10	1.84	5.34	2,000	22.15/M
45	100	110		BC547-ND‡	.15	2.91	8.40		
45	100	110		BC547BFS-ND‡	.15	2.91	8.40		
45	100	110		BC547BFACT-ND‡	.08	1.47	4.25	2,000	17.64/M
45	100	110		BC550-ND‡	.15	2.91	8.40		
50	100	200		2N5210-ND	.08	1.47	4.25		
50	100	40		BC1828-ND‡	.15	2.91	8.40		
50	100	40		BC1828-ND‡	.15	2.91	8.40		
60	100	100		2N5961-ND	.17	3.11	8.97		
60	100	20		PN2484-ND	.16	2.99	8.64		
65	100	110		BC546-ND‡	.18	3.43	9.91		
80	200	60		2N4410-ND	.17	3.27	9.44		
80	500	100		MPSA06-ND	.20	3.81	10.57		
80	500	100		MPSA06_D26ZTR-ND				2,000	44.72/M
80	500	100		MPSA06RFACT-ND‡	.20	3.81	10.57	2,000	45.01/M
80	1,000	25		BC639-ND†	.20	3.67	10.19		
100	200	60		2N5830-ND	.17	3.24	9.34		
100	1,500	1,000		2N7052-ND	.23	4.54	12.78		
140	600	20		2N5550BU-ND	.09	1.65	4.77		
200	200	25		MPSA43-ND	.21	3.93	10.91		
300	500	25		MPSA42FS-ND	—	3.96	11.42		
300	500	25		MPSA42_D26ZTR-ND				2,000	47.44/M
400	300	40		KSP44TACT-ND	.17	3.09	8.92	2,000	37.03/M
400	1,500	5		FJN13003TACT-ND†	.29	5.82	15.94	2,000	79.72/M
400	1,500	5		FJN3303TACT-ND†	.23	4.54	12.78	2,000	55.18/M
SOT-23									
2	12	50	25	MMBT5179CT-ND	.13	2.42	6.98	3,000	25.25/M
15	200	20		MMBT2369ACT-ND	.10	1.96	5.66	3,000	20.48/M
25	50	60		MMBT110FSCT-ND	.13	2.42	6.98	3,000	25.25/M
25	100	300		MMBT5089CT-ND	.12	2.16	6.23	3,000	22.51/M

Fig.	V _{ceo} (V)	I _c (mA)	Min. HFE	Digi-Key Part No.	1	Pricing 25	100	Tape and Reels Qty.	Pricing
TO-223 — RoHS Compliant									
2	40	600	20	MMBT4401FSCCT-ND	.07	1.39	4.11	3,000	14.51/M
40	800	35		BSR14CT-ND	.09	1.80	5.19	3,000	18.77/M
40	1,000	35		MMBT2222AFSCCT-ND	.07	1.19	3.45	3,000	12.46/M
40	1,200	10,000		MMBT6427FSCCT-ND	.14	2.56	7.41	3,000	26.79/M
45	100	110		BC847BMTFCT-ND	.09	1.63	4.72	3,000	17.06/M
45	100	110		BC847GMTFCT-ND	.09	1.63	4.72	3,000	17.06/M
45	800	100		BC81725MTFCT-ND	.09	1.63	4.72	3,000	17.06/M
50	500	250		MMBT6428CT-ND	.11	2.06	5.95	3,000	21.50/M
50	800	100		BC81740MTFCT-ND	.09	1.63	4.72	3,000	17.06/M
65	100	110		BC846BMTFCT-ND	.09	1.63	4.72	3,000	17.06/M
80	500	100		MMBT406FSCT-ND	.16	2.94	8.49	3,000	30.71/M
160	600	30		MMBT5551FSCCT-ND	.12	2.17	6.28	3,000	22.70/M
300	500	25		MMBT42AFSCCT-ND	.17	3.14	9.06	3,000	32.76/M
300	500	25		KST42MTFCT-ND	.12	2.22	6.42	3,000	23.21/M
SOT-223 — RoHS Compliant									
3	40	1,000	35	PZT2222ACT-ND	.28	5.36	15.08	2,500	61.68/M
300	1,500	25		BCP55FSCT-ND	.28	5.52	15.16	2,500	71.59/M
600	500	25		PZTA42CT-ND	.26	5.34	14.64	2,500	69.12/M
TO-264 — RoHS Compliant									
4	230	15,000	35	FJL431SOTU-ND	1.29	25.87	77.60		
TO-220 — RoHS Compliant									
30	3,000	120		KSC110MTFCT-ND	.34	6.75	20.26		
60	2,000	500		TIP110-ND	.41	8.13	24.39		
60	5,000	1,000		TIP120-ND	.41	8.13	24.39		
80	10,000	35		KSE44H11TU-ND	.44	8.17	24.50		
80	6,000	15		TIP41B-ND	.40	7.99	23.96		
100	1,000	15		TIP29CFS-ND	.40	7.99	23.96		
100	2,000	500		TIP112TU-ND	.41	8.13	24.39		
100	3,000	10		TIP31CFS-ND	.36	7.26	21.78		
100	3,000	10		TIP31CTU-ND	.40	7.99	23.96		
100	5,000	1,000		TIP122FS-ND	.36	6.75	20.26		
100	6,000	15		TIP41CTU-ND	.35	6.53	19.60		
100	8,000	200		TIP102TU-ND	.45	8.44	25.32		
100	8,000	200		TIP102-ND	.45	8.44	25.32		
100	1,000	15		TIP29CTU-ND	.36	7.26	21.78		
100	12,000	100		BWV93CFS-ND	.50	9.42	28.26		
200	7,000	—		BU406FS-ND	.49	9.26	27.77		
230	15,000	55		FJPS200RTU-ND	.69	14.29	45.74		
230	15,000	80		FJPS2000TU-ND	.69	14.29	45.74		
275	4,000	1,000		FJJP9100TU-ND	.58	10.84	32.51		
300	1,000	10		TIP48-ND	.40	7.99	23.96		
350	1,000	10		TIP49FS-ND	.40	7.99	23.96		
400	8,000	5		FJP13007TU-ND	.52	9.80	29.40		
400	8,000	15		FJP13007HTU-ND	.49	9.15	27.44		
400	8,000	26		FJP13007HT2TU-ND	.52	9.80	29.40		
400	12,000	15		FJP13009H2TU-ND	.65	12.15	36.43		
400	12,000	6		FJP13009TU-ND	.49	9.31	27.94		
400	4,000	19		FJP3305H1TU-ND	.49	9.31	27.94		
400	4,000	26		FJP3305H2TU-ND	.49	9.31	27.94		
400	4,000	8		FJP3305TU-ND	.49	9.31	27.94		
400	4,000	8		FJP3305-ND	.52	9.80	29.4		



Fig.	Vceo (V)	Ic (mA)	Min. HFE	Digi-Key Part No.	1	Pricing 25	100	Tape and Reel Qty.	Price\$	
TO-220F — RoHS Compliant										
6	230	15,000	55	FJPF5200RTU-ND	.76	15.88	50.82	—	—	
	230	15,000	80	FJPF5200RTU-ND	.76	15.88	50.82	—	—	
	400	8,000	5	FJPF13007TU-ND	.50	9.34	28.02	—	—	
	400	8,000	26	FJPF13007H2TU-ND	.52	9.20	29.40	—	—	
	400	8,000	5	FJPF13007TU-ND	.49	9.21	27.61	—	—	
	400	12,000	6	FJPF13009H2TU-ND	.67	12.52	37.57	—	—	
	400	12,000	6	FJPF13009TU-ND	.67	11.98	35.94	—	—	
	400	4,000	8	FJPF3305H1TU-ND	.43	7.96	23.90	—	—	
	400	4,000	8	FJPF3305H2TU-ND	.37	6.92	20.75	—	—	
	400	4,000	8	FJPF3305TU-ND	.45	8.39	25.16	—	—	
7	500	5,000	8	FJPF5212TU-ND	.49	9.08	27.22	—	—	
	800	3,000	20	FJPF50270TU-ND	.54	10.08	30.22	—	—	
	800	3,000	15	FJPF5027TU-ND	.49	9.10	27.28	—	—	
	900	100	30	KSC5042FU-ND	.37	6.97	20.91	—	—	
	D-PAK — RoHS Compliant									
	7	60	10,000	5	MJD3055TCT-ND	.40	7.99	23.96	2,000	111.81/M
80		8,000	40	MJD44H1TMCCT-ND	.41	7.62	22.87	2,500	132.14/M	
100		8,000	1000	KSH122TCT-ND	.41	8.13	24.39	2,000	113.84/M	
100		2,000	200	MJD112TCT-ND	.39	7.30	21.89	2,000	129.39/M	
100		8,000	100	MJD122TCT-ND	.41	8.13	24.39	2,000	113.84/M	
100		3,000	10	MJD31CTCT-ND	.39	7.84	23.52	2,000	109.77/M	
100		6,000	15	MJD41CTCT-ND	.40	7.99	23.96	2,000	111.81/M	
100		6,000	15	KSH41CTCT-ND	.40	7.99	23.96	2,000	111.81/M	
100		3,000	10	KSH31CTCT-ND	.41	8.11	24.33	2,000	113.53/M	
100		2,000	200	KSH112TMCCT-ND	.41	8.13	24.39	2,500	109.78/M	
8	100	8,000	100	KSH122TMCCT-ND	.41	8.13	24.39	2,500	109.78/M	
	400	3,000	10	FJD5553TMCCT-ND	.43	8.01	24.02	2,500	138.74/M	
	400	4,000	10	FJD5304TFCCT-ND	.38	7.55	22.65	2,000	105.71/M	
	400	5,000	10	FJD555TMCCT-ND	.49	9.26	27.77	2,500	160.45/M	
	600	2,000	3	KSC5020TMCCT-ND	.51	9.53	28.59	2,500	165.17/M	
	D2-PAK — RoHS Compliant									
7	100	8,000	200	FJB102TMCCT-ND	.68	12.80	38.39	800	191.08	
TO-126 — RoHS Compliant										
8	60	5,000	160	KSD1691YSTU-ND	.36	7.19	21.56	—	—	
	80	1,500	25	BD13916STU-ND	.30	6.19	16.99	—	—	
	300	500	30	MJE340STU-ND	.36	7.14	19.60	—	—	
	400	1,500	5	FJE3303TU-ND	.35	6.90	20.69	—	—	
	400	1,500	8	FJE3303H1TU-ND	.30	6.04	16.57	—	—	
	400	4,000	8	FJE5304DTU-ND	.41	8.28	24.83	—	—	
	400	1,500	5	KSE13003H1ASTU-ND	.30	6.10	18.30	—	—	
	400	1,500	5	KSE13003H2ASTU-ND	.30	6.10	18.30	—	—	
	400	1,500	14	FJE3303H2TU-ND	.33	6.56	19.67	—	—	
	SOT-523F — RoHS Compliant									
9	40	100	100	FJY3009RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	40	100	100	FJY3010RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	40	100	100	FJY3011RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	40	100	100	FJY3012RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	40	200	30	MMBT3904CT-ND	.13	2.45	7.08	3,000	25.59/M	
	50	100	22	FJY3001RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	30	FJY3002RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	56	FJY3003RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	56	FJY3004RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	30	FJY3005RCT-ND	.15	2.86	8.26	3,000	29.86/M	
10	50	100	68	FJY3006RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	68	FJY3007RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	56	FJY3008RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	56	FJY3013 RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	68	FJY3014RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	50	100	33	FJY3015RCT-ND	.15	2.86	8.26	3,000	29.86/M	
	TO-3P — RoHS Compliant									
	10	60	10,000	500	TIP140TU-ND	.78	16.34	52.27	—	—
		100	10,000	500	TIP142TU-ND	.81	16.79	53.72	—	—
		120	8,000	120	FJA3835TU-ND	.84	17.52	56.05	—	—
140		10,000	50	FJA43100TU-ND	.85	17.70	56.63	—	—	
230		15,000	35	FJA4313RTU-ND	.99	20.55	65.78	—	—	
230		15,000	35	FJA4313TU-ND	.91	19.10	61.13	—	—	
11	400	12,000	6	FJA13009TU-ND	.77	16.02	51.26	—	—	
	500	10,000	15	KSC5024RTU-ND	.85	17.70	56.63	—	—	
	TO-3PF — RoHS Compliant									
	11	140	10,000	50	FJAF4310YTU-ND	.80	16.70	53.43	—	—
	16-SOIC — RoHS Compliant									
	12	40	200	30	MMPQ3904F5CT-ND	.76	15.83	50.67	2,500	329.61/M
I²-PAK — RoHS Compliant										
13	800	3,000	20	FJ156030TU-ND	.88	18.29	58.52	—	—	
PNP Transistors										
TO-92										
1	10	500	15	PN5134-ND	.14	2.61	7.55	—	—	
	12	200	20	PN3640-ND	.40	7.99	23.96	—	—	
	15	200	20	2N5771-ND	.98	20.42	65.34	—	—	
	20	50	15	PN5142-ND	.30	5.90	16.61	—	—	
	25	200	60	2N4126-ND	.08	1.55	4.49	—	—	
	25	800	20	PN3638A-ND	.16	2.98	8.59	—	—	
	30	200	30	PN4917-ND	.15	2.81	8.12	—	—	
	30	200	25	2N4125-ND	.08	1.55	4.49	—	—	
	30	500	50	PN5138-ND	.17	3.11	8.97	—	—	
	30	1,200	5,000	MPSA63-ND	.19	3.48	10.06	—	—	
	30	1,000	30,000	BC516-ND	.18	3.43	9.91	—	—	
	30	100	110	BC559-ND	.20	3.76	10.85	—	—	
	40	200	15	2N3905-ND	.09	1.65	4.77	—	—	
	40	200	30	2N3906FS-ND	.08	1.52	4.39	—	—	
	40	200	30	2N3906Z6ZCT-ND	.08	1.52	4.39	2,000	18.23/M	
	40	200	30	2N3906TCT-ND	.08	1.52	4.39	2,000	18.15/M	
	40	200	30	PN4122-ND	.15	2.81	8.12	—	—	
	40	500	100	PN4249-ND	.17	3.11	8.97	—	—	
	40	500	250	PN4250-ND	.17	3.11	8.97	—	—	
	40	600	30	2N4402-ND	.09	1.71	4.96	—	—	
40	600	20	2N4403-ND	.09	1.71	4.96	—	—		
40	600	20	2N4403D26ZCT-ND	.09	1.74	5.00	2,000	20.78/M		
40	800	30	PN2907-ND	.10	1.96	5.66	—	—		
45	800	40	BC327-ND	.22	4.09	11.33	—	—		
45	100	110	BC557-ND	.20	3.76	10.85	—	—		
45	100	110	BC560-ND	.20	3.76	10.85	—	—		
45	100	420	BC560ACT-ND	.09	1.57	4.53	2,000	18.82/M		
50	50	30	PN3251-ND	.28	5.72	15.68	—	—		
50	100	250	2N5087-ND	.08	1.55	4.49	—	—		
50	300	—	BC212-ND	.20	3.76	10.85	—	—		

Fig.	Vceo (V)	Ic (mA)	Min. HFE	Digi-Key Part No.	1	Pricing 25	100	Tape and Reel Qty.	Price\$
1	50	300	40	BC212L-ND	.16	2.99	8.64	—	—
	60	500	250	PN4250A-ND	.17	3.11	8.97	—	—
	60	500	100	MPSA05-ND	.20	3.81	10.57	—	—
	60	800	10	PN2907ABUFS-ND	.09	1.63	4.72	—	—
	60	800	50	PN2907ACT-ND	.10	1.96	5.66	2,000	23.23/M
	80	500	100	MPSA66-ND	.17	3.33	9.63	—	—
	80	1,000	25	BC640-ND	.24	4.42	12.27	—	—
	120	600	30	2N5400-ND	.17	3.24	9.34	—	—
	150	600	30	2N5401-ND	.09	1.75	5.05	—	—
	300	500	25	MPSA92FS-ND	.44	8.17	22.65	—	—
SOT-23									
2	12	200	20	MMBT3640CT-ND	.41	7.62	22.87	3,000	132.14/M
	15	200	35	MMBT5771CT-ND	.98	20.42	65.34	3,000	424.71/M
	20	50	60	MMBT8181CT-ND	.12	2.29	6.61	3,000	23.89/M
	25	200	60	MMBT4126F5CT-ND	.10	1.96	5.66	3,000	20.48/M
	30	1,200	10,000	MMBT464F5CT-ND	.13	2.45	7.08	3,000	25.59/M
	40	600	20	MMBT4403F5CT-ND	.07	1.39	4.01	3,000	14.51/M
	40	200	30	MMBT3906F5CT-ND	.07	1.16	3.35	3,000	12.12/M
	40	800	35	MMBT2907CT-ND	.09	1.63	4.72	3,000	17.43/M
	45	800	100	BC8072MTFCT-ND	.09	1.71	4.96	3,000	17.92/M
	45	800	100	BC8074MTFCT-ND	.09	1.71	4.96	3,000	17.92/M
4	50	100	250	MMBT5087CT-ND	.12	2.29	6.61	3,000	23.89/M
	60	800	75	BSR16CT-ND	.09	1.80	5.19	3,000	18.77/M
	60	800	50	MMBT2907AF5CT-ND	.07	1.29	3.73	3,000	13.48/M
	80	500	100	MMBT464F5CT-ND	.13	2.45	7.08	3,000	25.59/M