

**Small Signal General Purpose**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				Saturation Voltage		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE (sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
<b>SOT-223 NPN Configuration</b>											
BCP68	20	30	5	1	85	375	1	500	0.5	1	100
FZT649	25	35	5	3	100	300	2	1000	0.6	3000	300
NZT6714	30	40	5	2	50	250	1	1000	0.5	1000	100
PZT3904	40	60	6	0.2	100	300	1	10	0.3	50	5
PZT2222A	40	75	6	1	100	300	10	150	1	500	50
NZT6715	40	50	5	1.5	50	250	1	1000	0.5	1000	100
BCP54	45	45	5	1.5	40	250	2	150	0.5	500	50
BCP55	60	60	5	1.5	40	250	2	150	0.5	500	50
NZT560A	60	80	5	3	250	550	2	500	0.4	3000	300
NZT560	60	80	5	3	100	300	2	500	0.45	3000	300
NZT651	60	80	5	4	75	-	2	500	0.5	2000	200
PZTA06	80	80	4	0.5	100	-	1	100	0.25	100	10
NZT6717	80	800	5	1.2	50	250	1	250	0.35	250	10
BCP56	80	100	5	1.2	40	250	2	150	0.5	500	50
PZTA42	300	300	6	0.5	40	-	10	30	0.5	20	2
FJT44	400	500	6	0.3	50	200	10	10	0.75	50	5
<b>SOT-223 PNP Configuration</b>											
FZT749	25	35	5	3	100	300	2	1000	0.6	3000	300
NZT6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100
PZT3906	40	40	5	0.2	100	300	1	10	0.4	50	5
FZT790A	40	50	5	3	250	550	2	500	0.3	1000	100
PZT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
BCP52	60	60	5	1.2	40	250	2	150	0.5	500	50
NZT6728	60	60	5	1.2	50	250	1	250	0.5	250	10
NZT660A	60	80	5	3	250	550	2	500	0.5	3000	300
NZT660	60	80	5	3	100	300	2	500	0.55	3000	300
NZT751	60	80	5	4	75	-	2	500	0.5	2000	200
PZTA56	80	80	4	0.5	100	-	1	100	0.25	100	10
NZT6729	80	80	5	1	50	250	1	250	0.5	250	10

**Small Signal General Purpose (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>		h <sub>FE</sub>			Saturation Voltage		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
BCP53	80	100	5	1.2	40	250	2	150	0.5	500	50
PZTA92	300	300	5	0.5	40	-	10	10	0.5	20	2
<b>SOT-23 NPN Configuration</b>											
BSV52	12	20	5	0.2	40	120	1	10	0.4	50	5
MMBT2369	15	40	4.5	-	40	120	1	10	0.25	10	1
MMBT2369A	15	40	4.5	0.2	40	120	1	10	0.5	100	10
MMBT3646	15	40	5	0.3	30	120	0.4	30	0.5	300	30
MMBT6515	25	40	4	-	250	500	10	2	0.5	50	5
KST5089	25	30	4.5	0.05	400	1200	5	0.1	0.5	10	1
MMBT5089	25	30	4.5	0.1	400	1200	5	0.1	0.5	10	1
KST4124	25	30	5	0.2	120	360	1	2	0.3	50	5
MMBT4124	25	30	5	0.2	120	360	1	2	0.3	50	5
KSC3265	25	30	5	0.8	100	320	1	100	0.4	500	20
BC818	25	30	5	0.8	100	630	1	100	0.7	500	50
MMBT2222	30	60	5	-	35	-	10	0.1	0.4	150	15
BSR13	30	60	5	-	100	300	10	150	1.6	500	50
KST5088	30	35	4.5	0.05	300	900	5	0.1	0.5	10	1
MMBT5088	30	35	4.5	0.1	300	900	5	0.1	0.5	10	1
BC848	30	30	5	0.1	110	800	5	2	0.6	100	5
BC848A	30	30	5	0.1	110	220	5	2	0.6	100	5
BC848B	30	30	5	0.1	200	450	5	2	0.6	100	5
BC849	30	30	5	0.1	110	800	5	2	0.6	100	5
BC849C	30	30	5	0.1	420	800	5	2	0.6	100	5
KST4123	30	40	5	0.2	50	150	1	2	0.3	50	5
KSC2859	30	35	5	0.5	70	240	1	100	0.25	100	10
BCW60A	32	32	5	0.1	120	220	5	2	0.55	50	1.25
BCW60B	32	32	5	0.1	180	310	5	2	0.55	50	1.25
BCW60C	32	32	5	0.1	250	460	5	2	0.55	50	1.25
BCW60D	32	32	5	0.1	380	630	5	2	0.55	50	1.25
BCW31	32	32	5	0.5	110	220	5	2	0.25	10	0.5
BCW32	32	32	5	0.5	200	450	5	2	0.25	10	0.5
BCW33	32	32	5	0.5	420	800	5	2	0.25	10	0.5

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$		$h_{FE}$			Saturation Voltage		
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
BCW65C	32	60	5	1	250	630	1	100	0.7	500	50
BSS79C	40	75	6	-	100	300	10	150	0.3	150	15
BSR17A	40	60	6	0.2	100	300	1	10	0.3	50	5
KST3904	40	60	6	0.2	100	300	1	10	0.3	50	5
MMBT3904	40	60	6	0.2	100	300	1	10	0.3	50	5
KST4401	40	60	6	0.6	100	300	1	150	0.75	500	50
MMBT4400	40	60	6	0.6	50	150	1	150	0.75	500	50
MMBT4401	40	60	6	0.6	100	300	1	150	0.75	500	50
KST2222A	40	75	6	0.6	100	300	10	150	1	500	50
BSR14	40	75	6	0.8	100	300	10	150	1	500	50
MMBT2222A	40	75	6	1	100	300	10	150	1	500	50
MMBT5962	45	45	8	0.1	600	1400	5	10	0.2	10	0.5
BC847	45	50	6	0.1	110	800	5	2	0.6	100	5
BC847A	45	50	6	0.1	110	220	5	2	0.6	100	5
BC847B	45	50	6	0.1	200	450	5	2	0.6	100	5
BC847C	45	50	6	0.1	420	800	5	2	0.6	100	5
BC850	45	50	5	0.1	110	800	5	2	0.6	100	5
BC850B	45	50	5	0.1	200	450	5	2	0.6	100	5
BC850C	45	50	5	0.1	420	800	5	2	0.6	100	5
BCX70G	45	45	5	0.2	120	220	5	2	0.55	50	1.25
BCX70H	45	45	5	0.2	180	310	5	2	0.55	50	1.25
BCX70J	45	45	5	0.2	250	460	5	2	0.55	50	1.25
BCX70K	45	45	5	0.2	380	630	5	2	0.55	50	1.25
BCW71	45	50	5	0.5	110	220	5	2	0.25	10	0.5
MMBT100	45	75	6	0.5	100	450	1	10	0.4	200	20
MMBT100A	45	75	6	0.5	300	600	1	10	0.4	200	20
BCX19	45	50	5	0.5	100	600	1	100	0.62	500	50
BC817	45	50	5	0.8	100	630	1	100	0.7	500	50
BCW66G	45	75	5	1	160	400	1	100	0.7	500	50
KSC1623	50	60	5	0.1	90	600	6	1	0.3	100	10
MMBT3416	50	50	5	0.5	75	225	4.5	2	0.3	50	3
MMBT6428	50	60	3	0.5	250	650	5	0.1	0.6	100	5

**Small Signal General Purpose (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>		h <sub>FE</sub>			Saturation Voltage		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
MMBT5210	50	50	4.5	0.5	200	600	5	0.1	0.7	10	1
BCV71	60	80	5	-	110	220	5	2	0.25	10	1
MMBTA05	60	60	4	-	50	-	1	10	0.25	100	10
KST2484	60	60	6	0.05	-	800	5	10	0.35	1	0.1
MMBT2484	60	60	5	0.1	100	500	5	0.01	0.35	1	0.1
KST05	60	60	4	0.5	50	-	1	100	0.25	100	10
BC846	65	80	6	0.1	110	800	5	2	0.6	100	5
BC846A	65	80	6	0.1	110	220	5	2	0.6	100	5
BC846B	65	80	6	0.1	200	450	5	2	0.6	100	5
KST06	80	80	4	0.5	50	-	1	100	0.25	100	10
MMBTA06	80	80	4	0.5	100	-	1	10	0.25	100	10
BSS64	80	120	5	200	20	-	1	10	0.2	50	15
FJV1845	120	120	5	0.05	200	1200	6	1	0.3	10	1
KST5550	140	160	6	0.6	60	250	5	10	0.25	50	5
KST5551	160	180	6	0.6	80	250	5	10	0.2	50	5
MMBT5551	160	180	6	0.6	80	250	5	10	0.2	50	5
KST43	200	200	6	0.5	40	-	10	30	0.5	20	2
KST42	300	300	6	0.5	40	-	10	30	0.5	20	2
MMBTA42	300	300	6	0.5	40	-	10	30	0.5	20	2
<b>SOT-23 PNP Configuration</b>											
MMBT3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5
MMBT5771	15	15	4.5	0.2	50	120	0.3	10	0.6	50	5
KST4126	25	25	4	0.2	120	360	1	2	0.4	50	5
MMBT4126	25	25	4	0.2	120	360	1	2	0.4	50	5
MMBT3702	25	40	5	0.8	60	300	5	50	0.25	50	5
KSA1298	25	30	5	0.8	100	320	1	100	0.4	500	20
BC808	25	30	5	0.8	100	630	1	100	0.7	500	50
BC858	30	30	5	0.1	110	800	5	2	0.65	100	5
BC859	30	30	5	0.1	110	800	5	2	0.65	100	5
KST4125	30	30	4	0.2	50	150	1	2	0.4	50	5

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$		$h_{FE}$			Saturation Voltage		
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
KSA1182	30	35	5	0.5	70	240	1	100	0.25	100	10
BCW61A	32	32	5	0.1	120	220	5	2	0.55	50	1.25
BCW61B	32	32	5	0.1	140	310	5	2	0.55	50	1.25
BCW61C	32	32	5	0.1	250	460	5	2	0.55	50	1.25
BCW61D	32	32	5	0.1	380	630	5	2	0.55	50	1.25
BCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5
BSR18A	40	40	5	0.2	100	300	1	10	0.4	50	5
KST3906	40	40	5	0.2	100	300	1	10	0.4	50	5
MMBT3906	40	40	5	0.2	100	300	1	10	0.4	50	5
BSR18B	40	40	5	0.5	110	220	1	10	0.4	50	5
KST4403	40	40	5	0.6	100	300	2	150	0.75	500	50
MMBT4403	40	40	5	0.6	100	300	2	150	0.75	500	50
BSR15	40	60	5	0.8	100	300	10	150	1.6	500	50
MMBT2907	40	60	5	0.8	100	300	10	150	1.6	500	50
BCW69	45	50	5	-	120	260	5	2	0.3	10	1
BCX71G	45	45	5	0.1	120	220	5	2	0.55	50	1.25
BCX71J	45	45	5	0.1	250	460	5	2	0.55	50	1.25
BC857	45	50	5	0.1	110	800	5	2	0.65	100	5
BC860	45	50	5	0.1	110	800	5	2	0.65	100	5
MMBT200	45	60	6	0.5	100	450	1	10	0.4	200	20
MMBT200A	45	60	6	0.5	300	600	1	10	0.4	200	20
BCX71K	45	45	5	0.5	380	630	5	2	0.55	50	1.25
BCX17	45	50	5	0.5	100	600	1	100	0.62	500	50
BC807	45	50	5	0.8	100	630	1	100	0.7	500	50
BCW68G	45	60	5	0.8	160	400	1	100	1.5	300	30
KST5086	50	50	3	0.05	150	500	5	0.1	0.3	10	1
KST5087	50	50	3	0.05	250	800	5	0.1	0.3	10	1
KSA812	50	60	5	0.1	90	600	6	1	0.3	100	10
MMBT5087	50	50	5	0.1	250	800	5	0.1	0.3	10	1
BCW89	60	80	5	-	120	260	5	2	0.3	10	1
BSR16	60	60	5	-	100	300	10	150	1.6	500	50
KST55	60	60	4	0.5	50	-	1	10	0.25	100	10

**Small Signal General Purpose (Continued)**

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					Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)
MMBTA55	60	60	4	0.5	100	-	1	10	0.25	100	10
KST2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
MMBT4355	60	60	5	0.8	100	400	10	10	1	1000	100
MMBT2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
BC856	65	80	5	0.1	110	800	5	2	0.65	100	5
KST56	80	80	4	0.5	50	-	1	10	0.25	100	10
MMBTA56	80	80	4	0.5	100	-	1	100	0.25	100	10
MMBT4356	80	80	5	0.8	50	250	10	10	0.15	150	15
BSS63	100	110	6	0.2	30	-	1	25	0.25	25	2.5
FJV992	120	120	5	0.05	200	-	6	1	0.3	10	1
KST5401	150	160	5	0.5	60	240	5	10	0.5	50	5
MMBT5401	150	160	5	0.6	60	240	5	10	0.5	50	5
KST93	200	200	5	0.5	40	-	10	10	0.5	20	2
KST92	300	300	5	0.5	40	-	10	10	0.5	20	2
MMBTA92	300	300	5	0.5	40	-	10	10	0.5	20	2
<b>SOT-323 NPN Configuration</b>											
FJX3904	40	60	6	0.2	100	300	1	10	0.3	50	5
FJX2222A	40	75	6	0.6	100	300	10	150	1	500	50
FJX945	50	60	5	0.15	40	700	6	1	0.3	100	10
<b>SOT-323 PNP Configuration</b>											
FJX1182	30	35	5	0.5	70	240	1	100	0.25	100	10
FJX3906	40	40	5	0.2	100	300	1	10	0.4	50	5
FJX733	50	60	5	0.15	40	700	6	1	0.3	20	2
FJX2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
<b>SOT-623F NPN Configuration</b>											
FJZ945	50	60	5	0.15	40	700	6	1	0.3	100	10
<b>SOT-623F PNP Configuration</b>											
FJZ733	50	60	5	0.15	40	700	6	1	0.3	100	10
<b>SOT-89 NPN Configuration</b>											
KSC2982	10	30	6	2	140	600	1	500	0.5	2000	50
FJC2098	20	50	6	5	120	390	2	500	1	4	100

**Small Signal General Purpose (Continued)**

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				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
KSD1621	25	30	6	2	100	560	2	100	0.4	1500	75
KSC2883	30	30	5	1.5	100	320	2	500	2	1500	30
FJC1963	30	50	6	3	120	560	2	500	0.45	1500	150
KSC2881	120	120	5	0.8	80	240	5	100	1	500	50
<b>SOT-89 PNP Configuration</b>											
FJC1386	20	30	6	5	80	390	2	500	1	4	100
KSB798	25	30	5	1	90	400	1	100	0.4	1000	100
KSB1121	25	30	6	2	100	560	2	100	0.6	1500	75
KSA1203	30	30	5	1.5	100	320	2	500	2	1500	30
FJC1308	30	30	6	3	80	390	2	500	0.45	1500	150
KSA1201	120	120	5	0.8	80	240	5	100	1	500	50
<b>SuperSOT NPN Configuration</b>											
FSB649	25	35	5	3	100	300	2	1000	0.6	3000	300
FMMT449	30	50	5	1	100	300	2	500	1	2000	200
FSB619	50	50	5	2	300	-	2	200	0.32	2000	50
FSB560A	60	80	5	2	250	550	2	500	0.3	2000	200
FSB560	60	80	5	2	100	300	2	500	0.35	2000	200
<b>SuperSOT PNP Configuration</b>											
FSB749	25	35	5	3	100	300	2	1000	0.6	3000	300
FMMT549	30	35	5	1	100	300	2	500	0.75	2000	200
FSB6726	30	40	5	1.5	50	250	1	1000	0.5	1000	100
FSBCW30	32	32	5	0.5	215	500	5	2	0.3	10	0.5
FSB660A	60	60	5	2	250	550	2	500	0.3	2000	200
FSB660	60	60	5	2	100	300	2	500	0.35	2000	200
<b>TO-220 PNP Configuration</b>											
D45H2A	30	-	-	8	100	-	5	8000	1	8000	400
<b>TO-226 NPN Configuration</b>											
TN6714A	30	40	5	2	50	250	1	1000	0.5	1000	100
FPN530A	30	60	5	3	250	-	2	100	0.25	1000	100
FPN530	30	60	5	3	100	-	2	100	0.3	1000	100
FPN330A	30	50	5	3	250	-	2	100	0.45	1000	100

**Small Signal General Purpose (Continued)**

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				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
FPN330	30	50	5	3	100	-	2	100	0.5	1000	100
TN2219A	40	75	6	1	100	300	10	150	1	500	50
MPSW3725	40	60	6	1.2	60	180	1	100	0.95	1000	100
TN6715A	40	50	5	1.5	50	250	1	1000	0.5	1000	100
TN6705A	45	60	5	1.5	40	250	2	250	1	1000	100
TN6716A	60	60	5	2	50	250	1	250	0.5	250	10
FPN560A	60	80	5	3	250	550	2	500	0.3	2000	200
MPSW06	80	80	4	0.5	100	-	1	100	0.25	100	10
TN3019A	80	140	7	1	100	300	10	150	0.5	500	50
TN6717A	80	80	5	1.2	50	250	1	250	0.35	250	10
ZTX614	100	120	10	-	10000	-	5	500	1.25	800	8
TN6718A	100	100	5	1.2	50	250	1	250	0.5	250	10
TN3440A	250	300	7	0.1	40	160	10	20	0.5	50	4
TN6719A	300	300	7	0.2	40	200	10	30	0.75	30	3
<b>TO-226 PNP Configuration</b>											
TN6726A	30	40	5	1.5	50	250	1	1000	0.5	1000	100
FPN430A	30	35	5	2	250	-	2	100	0.45	1000	100
FPN430	30	35	5	2	100	-	2	100	0.5	1000	100
FPN630A	30	35	5	3	250	-	2	100	0.25	1000	100
FPN630	30	35	5	3	100	-	2	100	0.3	1000	100
ZTX749A	35	45	5	2	100	300	2	1000	0.5	2000	200
TN6727A	40	50	5	1.5	50	250	1	1000	0.5	1000	100
TN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
TN6728A	60	60	5	1.2	50	250	1	250	0.5	250	10
FPN660A	60	80	5	3	250	550	2	500	0.4	2000	100
FPN660	60	80	5	3	100	300	2	500	0.45	2000	100
MPSW56	80	80	4	1	100	-	1	50	0.5	250	10
TN4033A	80	80	5	1	100	300	5	100	0.5	500	50
TN6729A	80	80	5	1	50	250	1	250	0.5	250	10
TN5415A	200	200	4	0.1	30	150	10	50	2.5	50	5



**Small Signal General Purpose (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				Saturation Voltage			
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)	
<b>TO-252(DPAK) NPN Configuration</b>												
NZD560A	55	80	5	3	250	550	2	500	1.5	1000	8	
<b>TO-92 NPN Configuration</b>												
KSC2500	10	30	6	2	140	600	1	500	0.5	2000	50	
KSC5019	10	30	6	2	140	600	1	500	0.5	2000	50	
2N5769	15	40	4.5	0.2	40	120	0.35	10	0.5	100	10	
PN2369A	15	40	4.5	0.2	40	120	1	10	0.5	100	10	
PN4275	15	40	4.5	0.2	35	120	1	10	0.5	100	10	
KSD261	20	40	5	0.5	40	400	1	100	0.4	500	50	
SS9013	20	40	5	0.5	64	202	1	50	0.6	500	50	
BC368	20	25	5	2	85	375	1	500	0.5	1000	100	
FJN5471	20	40	7	5	700	1000	2	500	0.5	3000	100	
FJN965	20	40	7	5	230	600	2	500	1	3000	100	
KSD5041	20	40	7	5	180	600	2	500	1	3000	100	
MPS6514	25	40	4	-	90	300	10	100	0.5	50	5	
MPS6515	25	40	4	-	250	500	10	2	0.5	50	5	
KSC900	25	30	5	0.05	120	1000	3	0.5	0.2	20	2	
2N5089	25	30	4.5	0.1	400	1200	5	0.1	0.5	10	1	
KSP6520	25	40	4	0.1	200	400	10	2	0.5	50	5	
KSP6521	25	40	4	0.1	300	600	10	2	0.5	50	5	
BC238	25	30	5	0.1	120	800	5	2	0.6	100	5	
BC239	25	30	5	0.1	120	800	5	2	0.6	100	5	
2N4124	25	30	5	0.2	120	360	1	2	0.3	50	5	
KSD227	25	30	5	0.3	70	400	1	50	0.4	300	30	
2N3390	25	25	5	0.5	400	800	4.5	2	-	-	-	
2N3391A	25	25	5	0.5	250	500	4.5	2	-	-	-	
2N3392	25	25	5	0.5	150	300	4.5	2	-	-	-	
2N3393	25	25	5	0.5	90	180	4.5	2	-	-	-	
2N5172	25	25	5	0.5	100	500	10	10	0.25	10	1	
2N3415	25	25	5	0.5	180	540	4.5	2	0.3	50	3	
PN3565	25	30	6	0.5	150	600	10	1	0.35	1	0.1	

**Small Signal General Purpose (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>	h <sub>FE</sub>				Saturation Voltage		
					Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)
KSC2001	25	30	5	0.7	90	400	1	100	0.6	700	70
BC338	25	30	5	0.8	100	630	1	100	0.7	500	50
SS8050	25	40	6	1.5	85	300	1	100	0.5	800	80
MPS6513	30	40	4	-	90	180	10	2	0.5	50	5
PN2222	30	60	5	-	100	300	10	150	1.6	500	50
SS9011	30	50	5	0.03	28	198	5	1	0.3	10	1
KSC839	30	35	4	0.1	40	400	12	2	0.4	10	1
2N5088	30	35	4.5	0.1	300	900	5	0.1	0.5	10	1
BC183LC	30	45	5	0.1	100	850	5	2	0.6	100	5
BC548	30	30	5	0.1	110	800	5	2	0.6	100	5
BC549	30	30	5	0.1	110	800	5	2	0.6	100	5
2N4123	30	40	5	0.2	50	150	1	2	0.3	50	5
BC184LC	30	45	5	0.2	250	-	5	2	0.6	100	5
PN3643	30	60	5	0.5	100	300	10	150	0.22	150	15
2N3704	30	50	5	0.5	100	300	2	50	0.6	100	5
BC184	30	45	5	0.5	130	-	5	2	0.6	100	5
BC184C	30	45	5	0.5	250	800	5	2	0.6	10	0.5
BC184L	30	45	5	0.5	130	-	5	2	0.6	100	5
PN3566	30	40	5	0.5	150	600	10	10	1	100	10
PN4141	30	60	5	0.5	100	300	10	150	1.6	500	50
2N4953	30	60	5	1	200	600	10	150	0.3	150	15
KSD471A	30	40	5	1	70	400	1	100	0.5	1000	100
KSC2328A	30	30	5	2	100	320	2	500	2	1500	30
2N3903	40	60	6	0.2	50	150	1	10	0.3	50	5
2N3904	40	60	6	0.2	100	300	1	10	0.3	50	5
TIS97	40	40	6	0.5	250	700	5	0.1	-	-	-
PN3569	40	80	5	0.5	100	300	1	150	0.25	150	15
PN3567	40	80	5	0.6	40	120	1	150	0.25	150	15
2N4400	40	60	6	0.6	50	150	1	150	0.75	500	50
2N4401	40	60	6	0.6	100	300	1	150	0.75	500	50
KSP2222A	40	75	6	0.6	100	300	10	150	1	500	50
MPS6531	40	60	5	1	90	270	1	100	0.3	100	10

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$		$h_{FE}$			Saturation Voltage		
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
PN2222A	40	75	6	1	100	300	10	150	1	500	50
2N5962	45	45	8	0.1	600	1400	5	10	0.2	10	0.5
MPSA18	45	45	6.5	0.1	500	1500	5	10	0.3	50	5
SS9014	45	50	5	0.1	60	1000	5	1	0.3	100	5
BC237	45	50	6	0.1	120	800	5	2	0.6	100	5
BC547	45	50	6	0.1	110	800	5	2	0.6	100	5
BC547A	45	50	6	0.1	110	800	5	2	0.6	100	5
BC550	45	50	5	0.1	110	800	5	2	0.6	100	5
PN930	45	45	5	0.1	100	300	5	0.01	1	10	0.5
KSC815	45	60	5	0.2	40	400	1	50	0.4	150	15
PN3642	45	60	5	0.5	40	120	10	150	0.22	150	15
PN100	45	75	6	0.5	100	450	1	10	0.4	200	20
PN100A	45	75	6	0.5	300	600	1	10	0.4	200	20
BC547B	45	50	6	0.5	200	450	5	2	0.6	100	5
BC547C	45	50	6	0.5	420	800	5	2	0.6	100	5
BC337	45	50	5	0.8	100	630	1	100	0.7	500	50
BC635	45	45	5	1	40	250	2	150	0.5	500	50
2N6428A	50	60	6	-	250	-	5	0.01	0.2	10	-
BC182LB	50	60	6	0.1	80	-	5	100	0.6	100	5
2N5210	50	50	4.5	0.1	200	600	5	0.1	0.7	10	1
KSC1815	50	60	5	0.15	70	700	6	2	0.25	100	10
KSC3114	50	60	12	0.15	280	560	6	1	0.3	100	10
KSC945	50	60	5	0.15	40	700	6	1	0.3	100	10
2N3416	50	50	5	0.5	75	225	4.5	2	0.3	50	3
2N3417	50	50	5	0.5	180	540	4.5	2	0.3	50	3
BC182L	50	60	5	0.5	80	-	5	100	0.6	100	10
BC182LA	50	60	5	0.5	80	-	5	100	0.6	100	10
KSD1616	50	60	6	1	135	600	2	100	0.3	1000	50
MPSA05	60	60	4	-	100	-	1	100	0.25	100	10
2N5961	60	60	8	0.1	150	700	5	10	0.2	10	1
PN2484	60	60	5	0.1	100	500	5	0.01	0.35	1	0.1
2N3859A	60	60	6	0.5	100	200	1	10	-	-	-

**Small Signal General Purpose (Continued)**

Products	V <sub>CEO</sub> (V)	V <sub>CBO</sub> (V)	V <sub>EBO</sub> (V)	I <sub>C</sub>		h <sub>FE</sub>			Saturation Voltage		
				Max (A)	Min	Max	@V <sub>CE</sub> (V)	@I <sub>C</sub> (mA)	V <sub>CE(sat)</sub> (V)	@I <sub>C</sub> (mA)	@I <sub>B</sub> (mA)
KSP05	60	60	4	0.5	50	-	1	10	0.25	100	10
KSP8098	60	60	6	0.5	100	300	5	1	0.4	100	5
MPS8098	60	60	6	0.5	100	300	5	1	0.4	100	5
KSC1008	60	80	8	0.7	40	400	2	50	0.4	500	50
KSC2331	60	80	8	0.7	40	240	2	50	0.7	500	50
PN3568	60	80	5	1	40	120	1	150	0.25	150	15
KSD1616A	60	120	6	1	135	400	2	100	0.3	1000	50
BC637	60	60	5	1	40	160	2	150	0.5	500	50
BC546	65	80	6	0.1	110	800	5	2	0.6	100	5
2N4410	80	120	5	0.2	60	400	1	10	0.2	1	0.1
KSP06	80	80	4	0.5	50	-	1	10	0.25	100	10
MPSA06	80	80	4	0.5	100	-	1	100	0.25	100	10
KSP8099	80	80	6	0.5	100	300	5	1	0.4	100	5
BC639	80	100	5	1	40	160	2	150	0.5	500	50
2N5830	100	120	5	0.2	80	500	5	10	0.25	50	5
KSC1845	120	120	5	0.05	200	1200	6	1	0.3	10	1
MPSL01	120	140	5	0.2	50	300	5	10	0.3	50	5
KSC2316	120	120	5	0.8	80	240	5	100	1	500	50
2N5550	140	160	6	0.6	60	250	5	10	0.25	50	5
KSC1009	140	160	8	0.7	40	400	2	50	0.7	200	20
KSC2310	150	200	5	0.05	40	240	5	10	0.5	10	1
2N5551	160	180	6	0.6	80	250	5	10	0.2	50	5
KSC2383	160	160	6	1	60	320	5	200	1.5	500	50
MPSA43	200	200	6	0.2	50	200	10	30	0.4	20	2
KSP43	200	200	6	0.5	40	-	10	30	0.5	20	2
2N6515	250	250	6	0.5	50	300	10	30	1	50	5
KSC2330	300	300	7	0.1	40	240	10	20	0.5	10	1
KSP42	300	300	6	0.5	40	-	10	30	0.5	20	2
MPSA42	300	300	6	0.5	40	-	10	30	0.5	20	2
2N6516	300	300	6	0.5	45	270	10	30	1	50	5
KSP45	350	400	6	0.3	50	200	10	10	0.75	50	5
2N6517	350	350	6	0.5	30	200	10	30	1	50	5

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$	$h_{FE}$				Saturation Voltage		
					Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)
KSC2330A	400	400	7	0.1	40	80	10	20	0.5	10	1
KSE13001	400	400	7	0.1	40	80	10	20	0.5	10	1
KSP44	400	500	6	0.3	50	200	10	10	0.75	50	5
<b>TO-92 PNP Configuration</b>											
PN5134	10	20	3.5	0.5	20	150	1	10	0.25	10	1
PN4258	12	12	4.5	0.2	30	120	3	10	0.5	50	5
PN3640	12	12	4	0.2	30	120	0.3	10	0.6	50	5
2N5771	15	15	4.5	0.2	50	120	0.3	10	0.6	50	5
ST5771-1	15	15	4.5	0.2	30	150	0.3	10	0.6	50	5
KSA643	20	40	5	0.5	40	400	1	100	0.4	500	50
SS9012	20	40	5	0.5	64	202	1	50	0.6	500	50
BC369	20	25	5	1.5	85	375	1	500	0.5	1000	100
BC308	25	30	5	0.1	120	800	5	2	0.3	10	0.5
BC309	25	30	5	0.1	120	800	5	2	0.3	10	0.5
2N4126	25	25	4	0.2	120	360	1	2	0.4	50	5
KSA642	25	30	5	0.3	70	400	1	50	0.6	300	30
2N3702	25	40	5	0.5	60	300	5	50	0.25	50	5
2N6076	25	25	5	0.5	100	500	10	10	0.25	10	1
MPS6523	25	45	4	0.5	300	600	10	2	0.5	50	5
MPS3702	25	40	5	0.8	60	300	5	50	0.25	50	5
BC328	25	30	5	0.8	100	630	1	100	0.7	500	50
PN3638	25	25	4.9	0.8	30	-	1	50	1	300	30
PN3638A	25	25	4.9	0.8	100	-	1	50	1	300	30
KSB564A	25	30	5	1	70	400	1	100	0.5	1000	100
MPS6562	25	25	5	1	50	200	1	500	0.5	500	50
SS8550	25	40	6	1.5	85	300	1	100	0.5	800	80
BC558	30	30	5	0.1	110	800	5	2	0.65	100	5
BC559	30	30	5	0.1	110	800	5	2	0.65	100	5
PN4917	30	30	5	0.2	150	300	1	10	0.3	50	5
2N4125	30	30	4	0.2	50	150	1	2	0.4	50	5
2N3703	30	50	5	0.5	30	150	5	50	0.25	50	5
PN5138	30	30	5	0.5	50	800	10	0	0.3	10	0.5

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$	$h_{FE}$				Saturation Voltage		
					Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)
MPS3703	30	50	5	0.8	30	150	5	50	0.25	50	5
KSA928A	30	30	5	2	100	320	2	500	2	1500	30
BC213L	30	45	5	500	80	400	5	2	0.6	100	10
BC214L	30	45	5	500	140	400	5	2	0.6	100	10
BC214LB	30	45	5	500	200	400	5	2	0.6	100	10
BC214LC	30	45	5	500	350	600	5	2	0.6	100	10
PN4122	40	40	5	0.2	150	300	1	10	0.3	50	5
2N3905	40	40	5	0.2	50	150	1	10	0.4	50	5
2N3906	40	40	5	0.2	100	300	1	10	0.4	50	5
MPS6518	40	-	4	0.2	150	300	10	2	0.5	50	5
2N5366	40	40	4	0.5	100	300	1	50	0.25	50	2.5
2N4402	40	40	5	0.6	50	150	2	150	0.75	500	50
2N4403	40	40	5	0.6	100	300	2	150	0.75	500	50
TIS93	40	40	5	0.8	100	300	2	50	0.25	50	5
MPS6534	40	40	4	0.8	90	270	1	100	0.3	100	10
PN2907	40	60	5	0.8	100	300	10	150	1.6	500	50
PN4143	40	60	5	0.8	100	300	10	150	1.6	500	50
BC307	45	50	5	0.1	120	800	5	2	0.3	10	0.5
BC557	45	50	5	0.1	110	800	5	2	0.65	100	5
BC560	45	50	5	0.1	110	800	5	2	0.65	100	5
SS9015	45	50	5	0.1	60	600	5	1	0.7	100	5
KSA539	45	60	5	0.2	40	240	1	50	0.5	150	15
PN200	45	60	6	0.5	100	450	1	10	0.4	200	20
PN200A	45	60	6	0.5	300	600	1	10	0.4	200	20
BCX79	45	45	5	0.5	80	1000	1	10	1	100	2.5
PN3644	45	45	5	0.8	100	300	10	150	0.4	150	15
BC327	45	50	5	0.8	100	630	1	100	0.7	500	50
BC636	45	45	5	1	40	250	2	150	0.5	500	50
2N5086	50	50	5	0.1	150	500	5	0.1	0.3	10	1
2N5087	50	50	5	0.1	250	800	5	0.1	0.3	10	1
BC212LB	50	60	5	0.1	60	-	5	2	0.6	100	5
KSA1015	50	50	5	0.15	70	400	6	2	0.3	100	10

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$		$h_{FE}$			Saturation Voltage		
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
BC212L	50	60	5	0.3	60	300	5	2	0.6	100	5
KSB1116	50	60	6	1	135	600	2	100	0.3	1000	50
KSA1281	50	50	5	2	70	240	2	500	0.5	1000	0.05
KSA733	50	60	5	150	40	700	6	1	0.3	100	10
KSP55	60	60	4	0.5	50	-	1	10	0.25	100	10
MPSA55	60	60	4	0.5	100	-	1	10	0.25	100	10
PN4249	60	60	5	0.5	100	300	5	0.1	0.25	10	0.5
PN4250A	60	60	5	0.5	250	700	5	0.1	0.25	10	0.5
KSP8598	60	60	5	0.5	100	300	5	1	0.4	100	5
KSP2907A	60	60	5	0.6	100	300	10	150	1.6	500	50
KSA708	60	80	8	0.7	40	240	2	50	0.7	500	50
KSA931	60	80	8	0.7	40	240	2	50	0.7	500	50
PN3645	60	60	5	0.8	100	300	10	150	0.4	150	15
PN4355	60	60	5	0.8	100	400	10	10	1	1000	100
PN2907A	60	60	5	0.8	100	300	10	150	1.6	500	50
KSB1116A	60	80	6	1	135	600	2	100	0.3	1000	50
BC638	60	60	5	1	40	160	2	150	0.5	500	50
MPS751	60	80	5	2	75	-	2	500	0.5	2000	200
BC556	65	80	5	0.1	110	800	5	2	0.65	100	5
KSP56	80	80	4	0.5	50	-	1	10	0.25	100	10
MPSA56	80	80	4	0.5	100	-	1	100	0.25	100	10
KSP8599	80	80	5	0.5	100	300	5	1	0.4	100	5
PN4356	80	80	5	0.8	50	250	10	10	0.5	500	50
BC640	80	100	5	1	40	160	2	150	0.5	500	50
MPSL51	100	100	4	0.2	40	250	5	50	0.3	50	5
KSA992	120	120	5	0.05	200	800	6	1	0.3	10	1
2N5400	120	130	5	0.6	40	180	5	10	0.5	50	5
KSA916	120	120	5	0.8	80	240	5	100	1	500	50
KSA910	150	150	5	0.05	40	240	5	10	0.8	10	1
2N5401	150	160	5	0.6	60	240	5	10	0.5	50	5
KSA709	150	160	8	0.7	40	400	2	50	0.4	200	20
KSA1013	160	160	6	1	60	320	5	200	1.5	500	50

**Small Signal General Purpose (Continued)**

Products	$V_{CE0}$ (V)	$V_{CBO}$ (V)	$V_{EBO}$ (V)	$I_C$		$h_{FE}$			Saturation Voltage		
				Max (A)	Min	Max	@ $V_{CE}$ (V)	@ $I_C$ (mA)	$V_{CE(sat)}$ (V)	@ $I_C$ (mA)	@ $I_B$ (mA)
MPSA93	200	200	5	-	40	-	10	10	0.5	20	2
KSA1370	200	200	5	0.1	40	320	10	10	0.6	20	2
KSP93	200	200	5	0.5	40	-	10	10	0.5	20	2
2N6518	250	250	5	0.5	50	300	10	30	1	50	5
KSP92	300	300	5	0.5	40	-	10	10	0.5	20	2
MPSA92	300	300	5	0.5	40	-	10	10	0.5	20	2
2N6519	300	300	5	0.5	45	270	10	30	1	50	5
2N6520	350	350	5	0.5	30	200	10	30	1	50	5
KSP94	400	400	6	0.3	50	300	10	10	0.75	50	5
KSA1625	400	400	7	0.5	40	200	5	50	1	100	10
<b>TO-92S NPN Configuration</b>											
KSC2710	20	40	5	0.5	40	400	1	100	0.4	500	50
KSC3488	25	30	5	0.3	70	400	1	50	0.4	300	30
KSD1020	25	30	5	0.7	70	400	1	100	0.4	700	70
KSD1021	30	40	5	1	70	400	1	100	0.5	1000	100
KSC2785	50	60	5	0.15	70	700	6	1	0.3	100	10
KSC2784	120	120	5	0.05	200	1200	6	1	0.3	10	1
<b>TO-92S PNP Configuration</b>											
KSA1150	20	40	5	0.5	40	400	1	100	0.4	500	50
KSA1378	25	30	5	0.3	70	400	1	50	0.6	300	30
KSB810	25	30	5	0.7	70	400	1	100	0.4	700	70
KSB811	25	30	5	1	70	400	1	100	0.5	1000	100
KSA1175	50	60	5	0.15	40	700	6	1	0.3	100	10
KSA1174	120	120	5	0.05	200	800	6	1	0.3	10	1