

Applications	Type No		Maximum Ratings				Electrical Characteristics (Ta = 25°C)										Package			
	NPN	PNP	V <sub>CEO</sub> (V)	I <sub>C</sub> (mA)	P <sub>C</sub> (mW)	h <sub>FE</sub>	f <sub>T</sub> (MIN)		V <sub>CE(sat)</sub> MAX		f <sub>T</sub> (TYP) MIN		NF (dB)	MAX			Fig			
							V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	I <sub>C</sub> (mA)	I <sub>B</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)		I <sub>E</sub> (mA)	f (MHz)	R <sub>B</sub> (Ω)				
	2SC3805	—	30	20	100	40~200	6	1	—	—	—	—	—	—	—	—	—	—	F1	
	2SC3195	—	30	20	100	40~200	6	1	—	—	—	—	—	—	—	—	—	—	F5	
	2SC3194	—	30	20	100	25~140	6	1	—	—	—	—	—	—	—	—	—	—	F3	
FM/RF. MIX OSC	KTC9016	—	30	20	200	40~198	5	1	—	—	—	—	—	—	—	—	—	—	—	F3
	KTC9018	—	30	20	200	40~198	5	1	—	—	—	—	—	—	—	—	—	—	—	F3
	BFS99	—	25	25	200	(40)	10	7	—	—	—	—	—	—	—	—	—	—	—	F1
	BFS20	—	25	25	200	(40)	10	7	—	—	—	—	—	—	—	—	—	—	—	F1
FM-IF/AF-IF	2SC3879S	—	30	50	150	40~240	12	2	0.4	10	1	100	10	1	27~33	6	—	—	—	F1
	2SC3193	—	30	50	200	40~240	12	2	0.4	10	1	100	10	1	27~33	6	—	—	—	F5
	2SC3192	—	30	50	300	40~240	12	2	0.4	10	1	100	10	1	27~33	6	—	—	—	F3
	KTC9011	—	30	50	400	40~198	5	1	0.4	10	1	100	10	1	—	—	—	—	—	F3
AM RF	2SC3878S	—	30	100	150	40~240	12	2	0.4	10	1	80	10	2	3.5	10	—	—	—	F1
	2SC3191	—	30	100	200	40~240	12	2	0.4	10	1	80	10	2	3.5	10	—	—	—	F5
	2SC3190	—	30	100	400	40~240	12	2	0.4	10	1	80	10	2	3.5	10	—	—	—	F3

\*: I<sub>B</sub> \*: G<sub>FE</sub> \*: V<sub>CE</sub>

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				Maximum Ratings					MIN							MAX				
				V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	P <sub>C</sub> (mW)	h <sub>FE</sub>	V <sub>CE</sub> (sat)(V)	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)			V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	G <sub>VE</sub> (dB)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)
VIII RI	NPN	30	20	250	20~200	10	2	—	—	—	400	2	20~28	10	0	0	F3			
	PNP	15	50	150	40~200	3	8	—	—	—	650	8	*1.3	*10	—	1	F1			
VIII OSC	NPN	15	50	250	(20)	3	8	—	—	—	600	8	*1.5	*10	—	1	F3			
	PNP	15	100	300	(20)	1	3	0.4	10	1	600	4	*1.7	*10	—	1	F1			
VIII OSC	NPN	15	50	250	(20)	3	8	—	—	—	650	8	*1.5	*10	—	1	F3			
	PNP	15	50	150	40~200	10	5	—	—	—	1,500	2	*0.9	10	—	800	F1			
VIII OSC	NPN	15	50	150	60~120	1	8	—	—	—	1,100	8	*1.3	*10	—	1	F1			
	PNP	25	50	150	20~200	10	10	0.2	15	1.5	250	10	*1.6	*10	—	1	F1			
IX PH	NPN	40	50	250	(30)	10	4	—	—	—	400	4	32~40	12	4	1	F3			
	PNP	25	50	300	20~200	12.5	12.5	0.2	15	1.5	300	12.5	28~36	12.5	12.5	45	F3			
	PNP	25	50	300	20~200	12.5	12.5	0.2	15	1.5	300	12.5	28~36	12.5	12.5	45	F3			

\*C<sub>ob</sub>, \*C<sub>ce</sub>, \*V<sub>CE</sub>

Applications		Type No		Electrical Characteristics (Ta = 25°C)										Package						
				Maximum Ratings					MIN							TYP				
				V <sub>CE</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)			V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	C <sub>ob</sub> (PF)
IX Vertical Output	NPN	30	2	1	100~320	2	500	2.0	1.5A	30	120	2	500	2	10	1	F4			
	PNP	30	1	1.5	40~400	2	500	0.8	2A	0.2A	100	2	500	2	10	1	F7			
IX Vertical Output	NPN	150	1.5	20	40~140	10	500	1.5	500	50	4	10	500	5	10	1	F7			
	PNP	60	3	25	60~300	5	500	1.0	3A	0.3A	3.0	5	500	5	10	1	F7			
IX Vertical Output	NPN	60	3	25	60~300	5	500	1.0	3A	0.3A	9	5	500	5	10	1	F7			
	PNP	30	3	10	70~240	2	500	0.8	2A	0.2A	100	2	500	2	10	1	F6			
IX Vertical Output	NPN	60	3	25	60~300	5	500	1.0	3A	0.3A	3.0	5	500	5	10	1	F6			
	PNP	60	3	30	60~200	5	500	1.0	3A	0.3A	9	5	500	5	10	1	F6			
IX Vertical Output	NPN	150	1.5	25	40~140	10	500	1.5	500	50	4	10	500	10	35	10	F6			
	PNP	150	1.5	25	40~140	10	500	1.5	500	50	4	10	500	10	35	10	F6			

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	NPN	PNP	V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>	(MIN)		MAX		f <sub>T</sub> (MHz)	(TYP)		C <sub>ob</sub> (pF)	(TYP) MAX		Fig		
							V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	I <sub>C</sub> (mA)	I <sub>B</sub> (mA)		V <sub>CE</sub> (V)	I <sub>C</sub> (mA)		V <sub>CB</sub> (V)	f (MHz)			
TV Horizontal Output	2SC3231	—	60	4	*40	30~150	5	1A	1.0	4A	0.4A	(8)	5	0.5A	—	—	—	TO-220AB	F6
	KTC2231	—	60	4	*35	30~150	5	1A	1.0	4A	0.4A	(8)	5	0.5A	—	—	—	TO-220IS	F7
	KTD1069	—	150	7	*40	(10)	1.5	5A	1.5	5A	0.5A	(18)	10	0.2A	—	—	—	TO-220AB	F6
	*KTD1427	—	600	5	*80	(8)	5	1A	5	4A	0.8A	(3)	10	0.1A	(165)	10	1	TO-3P(H)BS	F10
	KTD1554	—	600	3.5	*40	(8)	5	0.5A	8	3A	0.8A	(3)	10	0.1A	(95)	10	1	TO-3P(S)	F11
TV Sound Output	KTD1555	—	600	5	*50	(8)	5	1A	5	4A	0.8A	(3)	10	0.1A	(165)	10	1	TO-3P(S)	F11
	*BU508A	—	700	8	*60	—	—	—	1	4.5A	2A	(7)	5	0.1A	(125)	10	1	TO-3P(S)	F11
Video Output	2SC3206	KTA949	150	0.05	0.8	70~240	5	10	0.5	10	1	(120)	30	10	5	10	1	TO-92L	F4
	2SC3207	—	300	0.1	0.9	(20)	10	4	1.0	10	1	50	10	20	(3.0)	20	1	TO-92L	F4
	2SC3229	—	300	0.05	1.5	(20)	10	0.5	1.0	10	1	75	20	20	4.0	20	1	TO-202	F8
	2SC3208	—	300	0.15	*12.5	40~170	10	50	1.0	100	20	40	10	30	6.5	50	1	TO-120AB	F6
	KTC15691	—	300	0.15	*12.5	40~170	10	50	1.0	100	20	100	10	30	5.0	50	1	TO-220S	F7
TV Sound Output	2SC3203	2SA1271	30	0.8	0.6	100~120	1	100	0.5	500	20	(120)	5	10	(15)	10	1	TO-92(C)	F3
	2SC3228	2SA1275	160	1	0.9	60~120	5	200	1.5	500	50	20	5	200	20	10	1	TO-92L	F4
	2SC3205	2SA1273	30	2	1	100~120	2	500	2.0	1.5A	30	(120)	2	500	(30)	10	1	TO-92L	F4
	2SC4369	2SA1658	30	3	*15	40~400	2	500	0.8	2A	0.2A	(100)	2	500	(35)	10	1	TO-220IS	F7
	2SD3058A	—	60	3	*25	60~300	5	500	1.0	3A	0.3A	(3.0)	5	500	(70)	10	1	TO-220IS	F7
	—	2SB1366	60	3	*25	60~300	5	500	1.0	3A	0.3A	(9)	5	500	(150)	10	1	TO-220IS	F7
	2SC3230	2SA1276	30	3	*10	70~240	2	500	0.8	2A	0.2A	(100)	2	500	(35)	10	1	TO-220AB	F6
	2SD1351A	—	60	3	*25	60~300	5	500	1.0	3A	0.3A	(3.0)	5	500	(70)	10	1	TO-220AB	F6
	—	2SB908	60	3	*30	60~200	5	500	1.0	3A	0.3A	(9)	5	500	(150)	10	1	TO-220AB	F6
	KTC2230	—	160	0.1	0.8	120~400	10	10	0.5	50	5	50	10	10	7.0	10	1	TO-92L	F4
	KTC2230A	—	180	0.1	0.8	120~400	10	10	0.5	50	5	50	10	10	7.0	10	1	TO-92L	F4
	KTC2231	—	160	0.2	*12	100~320	10	50	1.0	200	20	50	10	50	10	10	1	TO-202	F8
	KTC2231A	—	180	0.2	*12	100~320	10	50	1.0	200	20	50	10	50	10	10	1	TO-202	F8
KTC2483	—	160	1.5	*15	100~320	5	200	1.0	500	50	40	5	200	20	10	1	TO-202	F8	

PC: Tc = 25°C



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	NPN	PNP	V <sub>CEO</sub> (V)	I <sub>C</sub> (A)	P <sub>C</sub> (W)	h <sub>FE</sub>	V <sub>CE(sat)</sub>		MAX		f <sub>T</sub> (MHz)	TYP		C <sub>ob</sub> (pF)	TYP		Fig		
							V <sub>CE</sub> (V)	I <sub>C</sub> (mA)	I <sub>C</sub> (mA)	I <sub>B</sub> (mA)		V <sub>CE</sub> (V)	I <sub>C</sub> (mA)		V <sub>CE</sub> (V)	I <sub>C</sub> (mA)			
27MHz Drive/Output	KTC2036A	—	80	1	1.2	100	2	150	0.7	500	20	150	10	100	12	10	1	TO-202	F8
	KTC2075	—	80	4	1.0	25	5	0.5A	1.5	3A	0.3A	100	5	300	40	V <sub>CE</sub> = 10	1	TO-229AB	1.6
High β Low V <sub>CE(sat)</sub>	KTC3112	—	50	0.15	0.4	600~3600	6	2	0.25	100	10	250	10	10	3.5	10	1	TO-92L	1.3
	KTD1582	—	50	1	1	800~3200	5	0.3A	0.3	0.5A	5	250	10	10.5A	18	10	1	TO-92L	1.4
Strobe Flash	2SC3226	—	10	2	0.9	140~600	1	0.5A	0.5	2A	50	150	1	0.5A	27	10	1	TO-92L	F4
	2SC4377	—	30	2	*1	140~600	1	0.5A	0.5	2A	50	150	1	0.5A	27	10	1	SOT-89	F2
	—	KTA1242	20	5	*10	100~320	2	0.5A	1	4A	0.1A	170	2	0.5A	62	10	1	SMD-3	F13
Muting	*KTC2878	—	20	0.3	0.4	200~1200	2	4	0.3	30	3	30	6	4	4.8	10	1	TO-92(C)	F3

\*Pc\*: Ta = 25°C Pc\*: mounted on ceramic substrate (250mm<sup>2</sup> × 0.8t)