Applications	Type No		Maximum Ratings			Electrical Characteristics (Ta=25°C)														Package	
						h_{FE} (MIN)			V_{CE}(sat) MAX			f_T (TYP) MIN			NF MAX						
	NPN	PNP	V_{CEO} (V)	I_C (mA)	P_C (mW)		V_{CE} (V)	I_C (mA)	(V)	I_C (mA)	I_B (mA)	(MHz)	V_{CE} (V)	I_C (mA)	(dB)	V_{CE} (V)	I_E (mA)	f (MHz)	R_g (Ω)		Fig
FM/RF, MIX OSC	2SC3880S	—	30	20	100	40~200	6	1	—	—	—	(550)	6	1	5.0	6	−1	100	50	SOT-23	F1
	2SC3195	—	30	20	100	40~200	6	1	—	—	—	(550)	6	1	5.0	6	−1	100	50	TO-92(M)	F5
	2SC3194	—	30	20	100	25~140	6	1	—	—	—	(600)	6	*−1	4.0	6	−1	100	50	TO-92(C)	F3
	KTC9016	—	30	20	200	40~198	5	1	—	—	—	260	6	*−1	4.0	6	−1	100	50	TO-92(B)	F3
	KTC9018	—	30	20	200	40~198	5	1	—	—	—	500	10	*−8	4.0	6	−1	100	50	TO-92(B)	F3
	BF599	—	25	25	200	(40)	10	7	—	—	—	275	10	7	—	—	—	—	—	SOT-23	F1
	BFS20	—	25	25	200	(40)	10	7	—	—	—	275	10	7	—	—	—	—	—	SOT-23	F1
FM-IF/AF-IF	2SC3879S	—	30	50	150	40~240	12	2	0.4	10	1	100	10	1	*27~33	*6	−1	10.7	50	SOT-23	F1
	2SC3193	—	30	50	200	40~240	12	2	0.4	10	1	100	10	1	*27~33	*6	−1	10.7	50	TO-92(M)	F5
	2SC3192	—	30	50	300	40~240	12	2	0.4	10	1	100	10	*−1	*27~33	*6	−1	10.7	50	TO-92(C)	F3
	KTC9011	—	30	50	400	40~198	5	1	0.4	10	1	100	10	1	—	—	—	—	—	TO-92(B)	F3
AM RF	2SC3878S	—	30	100	150	40~240	12	2	0.4	10	1	80	10	2	3.5	10	−1	1	50	SOT-23	F1
	2SC3191	—	30	100	200	40~240	12	2	0.4	10	1	80	10	2	3.5	10	−1	1	50	TO-92(M)	F5
	2SC3190	—	30	100	400	40~240	12	2	0.4	10	1	80	10	*−2	3.5	10	−1	1	50	TO-92(C)	F3

*: I_E *: G_{pe} *: V_{CC}

T-27-01

Applications		Type No		Maximum Ratings			Electrical Characteristics (Ta = 25°C)														Package	
		NPN	PNP	V_{CEO} (V)	I_C (mA)	P_C (mW)	h_{FE}	(MIN) V_{CE} (V)	(MIN) I_C (mA)	V_{CE}(sat) (V)	MAX I_C (mA)	MAX I_B (mA)	f_T (MHz)	MIN V_{CE} (V)	MIN I_C (mA)	G_{pe} (dB)	MAX V_{CC} (V)	MAX I_C (mA)	MAX f (MHz)		Fig
Tuner	VHF RF	KTC2348	—	30	20	250	20~200	10	2	—	—	—	400	10	2	20~28	10	0	0	TO-92(C)	F3
	VHF OSC	2SC3882S	—	15	50	150	40~200	3	8	—	—	—	650	10	8	*1.3	*10	—	1	SOT-23	F1
		KTC2349	—	15	50	250	(20)	3	8	—	—	—	600	10	8	*1.5	*10	—	1	TO-92(C)	F3
		BFQ31	—	15	100	200	(20)	1	3	0.4	10	1	600	10	4	*1.7	*10	—	1	SOT-23	F1
	UHF OSC, UHF MIX	KTC2347	—	15	50	250	(20)	3	8	—	—	—	650	10	8	*1.5	*10	—	1	TO-92(C)	F3
	UHF MIX, RF	KTC3120S	—	15	50	150	40~200	10	5		—	—	1,500	10	2	*0.9	10	—	800	SOT-23	F1
	UHF OSC	KTC3121S	—	15	50	150	60~120	3	8	—	—	—	1,100	10	8	*1.3	*10	—	1	SOT-23	F1
IF PIF		2SC3881S	—	25	50	150	20~200	10	10	0.2	15	1.5	250	10	10	*1.6	*10	—	1	SOT-23	F1
		2SC3196	—	40	50	250	(30)	10	4	—	—	—	400	10	4	32~40	12	4	1	TO-92(C)	F3
		2SC3197	—	25	50	300	20~200	12.5	12.5	0.2	15	1.5	300	12.5	12.5	28~36	12.5	12.5	45	TO-92(C)	F3

*Cob, *Cre, *V_{CB}

Applications	Type No		Maximum Ratings			Electrical Characteristics (Ta = 25°C)													Package	
	NPN	PNP	V_{CEO} (V)	I_C (A)	P_C (W)	h_{FE}	V_{CE} (V)	I_C (mA)	V_{CE}(sat) (V)	MAX I_C (mA)	MAX I_B (mA)	f_T (MHz)	TYP V_{CE} (V)	TYP I_C (mA)	C_{ob} (PF)	TYP V_{CB} (V)	TYP f (MHz)		Fig
TV Vertical Output	2SC3205	2SA1273	30	2	1	100~320	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
	2SC4368	2SA1657	150	1.5	20	40~140	10	500	1.5	500	50	4	10	500	35	10	1	TO-220IS	F7
	2SD2058A	—	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
	—	2SB988	60	3	30	60~200	5	500	1.0	3A	0.3A	9	5	500	150	10	1	TO-220AB	F6
	KTC2073	KTA940	150	1.5	25	40~140	10	500	1.5	500	50	4	10	500	35	10	1	TO-220AB	F6

* Under Development

Applications	Type No		Maximum Ratings			Electrical Characteristics (Ta=25°C)												Package	
						h_{FE}	(MIN)		V_{CE}(sat)	MAX		f_T	(TYP)	MIN	Cob	(TYP) MAX			
	NPN	PNP	V_{CEO} (V)	I_C (A)	P_C (W)		V_{CE} (V)	I_C (mA)	(V)	I_C (mA)	I_B (mA)	(MHz)	V_{CE} (V)	I_C (mA)	(pF)	V_{CB} (V)	f (MHz)		Fig
TV Horizontal Output	2SC3231	—	60	4	*40	30~150	5	1A	1.0	4A	0.4A	(8)	5	0.5A	—	—	—	TO-220AB	F6
	KTC2233I	—	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(IS)	F11
	KTD1555	—	600	5	*50	(8)	5	1A	5	4A	0.8A	(3)	10	0.1A	(165)	10	1	TO-3P(IS)	F11
	*BU508A	—	700	8	*60	—	—	—	1	4.5A	2A	(7)	5	0.1A	(125)	10	1	TO-3P(IS)	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-220AB	F6
	KTC15691	—	300	0.15	*12.5	40~170	10	50	1.0	100	20	100	10	30	5.0	50	1	TO-220IS	F7
TV Sound Output	2SC3203	2SA1271	30	0.8	0.6	100~320	1	100	0.5	500	20	(120)	5	10	(13)	10	1	TO-92(C)	F3
	2SC3228	2SA1275	160	1	0.9	60~320	5	200	1.5	500	50	20	5	200	20	10	1	TO-92L	F4
	2SC3205	2SA1273	30	2	1	100~320	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
	2SD2058A	—	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
	—	2SB988	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

*Under Development

Applications	Type No		Maximum Ratings Tc=25°C			Electrical Characteristics (Ta=25°C)												Package	
						h_{FE}	(MIN)		V_{CE}(sat)	MAX		V_{BE}(sat)	MAX		SW time (TYP) MAX				
	NPN	PNP	V_{CEO} (V)	I_C (A)	(PI) P_C (W)		V_{CE} (V)	I_C (A)	(V)	I_C (A)	I_B (A)	(V)	I_C (A)	I_B (A)	t_{on} (μs)	t_{stg} (μs)	t_f (μs)		Fig
Switching Regulator	2SC4371	—	400	5	30	(12)	5	3	1.0	5	1	1.5	5	1	*1.0	2.5	1.0	TO-220IS	F7
	KTD1947	—	100	10	30	(500)	1	1	0.3	5	0.05	1.2	5	0.05	(0.5)	(5.0)	(1.0)	TO-220IS	F7
	KTC3148	—	800	3	40	(10)	5	0.8	0.6	0.8	0.16	1.2	0.8	0.16	*1.0	4.0	1.0	TO-220AB	F6
	KTC2553	—	400	5	40	(12)	5	3	1.0	5	1	1.5	5	1	*1.0	2.5	1.0	TO-220AB	F6
	KTC2200	—	400	7	40	(10)	5	3	1.5	3	0.3	2.0	3	0.3	*1.0	2.0	1.0	TO-3P(IS)	F11
	KTC2791	—	800	5	100	(10)	5	10mA	1.0	3	0.6	1.5	3	0.6	*1.0	3.5	1.0	TO-3P(L)	F12
	KTC2650	—	400	10	100	(10)	5	5	1.5	5	0.5	2.0	5	0.5	*1.0	2.5	1.0	TO-3P(L)	F12
	KTC3680	—	800	7	120	(10)	5	10mA	1.0	3	0.6	1.5	3	0.6	*1.0	3.5	1.0	TO-3P(L)	F12
	BUV48A	—	450	15	(150)	—	—	—	1.5	8	1.6	1.6	8	1.6	1	3	0.8	TO-3P(L)	F12
	BUV48C	—	700	15	(175)	—	—	—	1.5	6	1.5	1.5	6	1.5	1	3	0.7	TO-3P(L)	F12
Darlington	KTD686	—	80	4	30	(2000)	2	1	1.5	3	6mA	2	3	6mA	0.2	1.5	0.6	TO-220AB	F6
	BU806	—	200	8	(60)	—	—	—	1.5	5	0.05	2.8	5	0.5	0.35	0.55	0.2	TO-220AB	F6

*t_r

Applications	Type No		Maximum Ratings			Electrical Characteristics (Ta=25°C)														Package	
						h_{FE}	(MIN)		V_{CE}(sat)	MAX		f_T	MIN		SW Time MAX						
	NPN	PNP	V_{CEO} (V)	I_C (mA)	P_D (mW)		V_{CE} (V)	I_C (mA)	(V)	I_C (mA)	I_B (mA)	(MHz)	V_{CE} (V)	I_C (mA)	t_{on} (ns)	t_d (ns)	t_r (ns)	t_{stg} (ns)	t_f (ns)		Fig
Switching	2N3904	2N3906	40	200	625	*100~300	1.0	10	0.2	10	1.0	300	20	10	—	35	35	200	50	TO-92(B)	F3
	—	2N5401	150	600	625	* 60~240	5.0	1.0	0.2	10	1.0	100	10	10	—	—	—	—	—	TO-92(B)	F3
	2N5551	—	160	600	625	* 80~250	5.0	10	0.2	50	5.0	100	10	10	—	—	—	—	—	TO-92(B)	F3
	KTN2369	—	15	500	625	* 40~120	1.0	10	0.25	10	1.0	500	10	10	12	—	—	13	—	TO-92(B)	F3
	KTN2369A	—	15	500	625	* 40~120	1.0	10	0.3	10	1.0	500	10	10	12	—	—	13	—	TO-92(B)	F3
	KTN2222	KTN2907	30	600	625	(50)	10	1.0	0.4	150	15	250	20	20	—	10	25	225	60	TO-92(B)	F3
	KTN2222A	KTN2907A	40	600	625	(50)	10	1.0	0.3	150	15	300	20	20	—	10	25	225	60	TO-92(B)	F3
	—	*MPSA92	300	500	625	*(25)	10	1.0	0.5	20	2.0	50	20	10	—	—	—	—	—	TO-92(B)	F3
	—	*MPSA93	200	500	625	*(25)	10	1.0	0.4	20	2.0	50	20	10	—	—	—	—	—	TO-92(B)	F3

*Pulse width≤300μs, Duty cycle≤2.0%

Applications	Type No		Maximum Ratings			Electrical Characteristics (Ta=25°C)												Package	
						h_{FE}			V_{CE}(sat) MAX			f_T TYP			C_{ob} TYP				
	NPN	PNP	V_{CEO} (V)	I_C (A)	P_C (W)		V_{CE} (V)	I_C (mA)	(V)	I_C (mA)	I_B (mA)	(MHz)	V_{CE} (V)	I_C (mA)	(pF)	V_{CB} (V)	f (MHz)		Fig
27MHz Drive/Output	KTC2036A	—	80	1	1.2	100	2	150	0.7	500	20	150	10	300	12	10	1	TO-202	F8
	KTC2075	—	80	4	*10	25	5	0.5A	1.5	3A	0.3A	100	5	500	40	V_{CE}=10	1	TO-220AB	F6
High β Low V_{CE}(sat)	KTC3112	—	50	0.15	0.4	600~3600	6	2	0.25	100	10	250	10	10	3.5	10	1	TO-92L	F3
	KTD1582	—	50	1	1	800~3200	5	0.3A	0.3	0.5A	5	250	10	(0.5A)	18	10	1	TO-92L	F4
Strobo 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	SMP-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: Tc = 25°C Pc*: mounted on ceramic substrate (250mm² x 0.8t)