

Low voltage power bipolar transistors

Selection guide



October 2006

SOT-223



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	$h_{FE} \text{ @}$		I_C [A]	V_{CE} [V]	$V_{CE(sat)} \text{ @}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
	STN749	25	35	3	1.6	100	300	1	2	0.6	3	300
STN878	STN888	30	45	5	1.6	150	300	0.5	1	1.5	10	500
STN724	STN826	30	60	3	1.4	80		1	2	0.4	1	50
STN690A	STN790A	30	40	3	1.6	100	300	0.5	2	0.7	3	30
2STN1360	2STN2360*	60	80	3	1.6	160	400	1	2	0.5	3	150
STN1802		60	80	3	1.6	100		3	2	0.4	3	150
STN851	STN951*	60	150	5	1.6	150	350	2	1	0.45	5	200
STN715	STN817A	80	140 (-80)	1	1.6	40		1	2	0.5	1	100

SOT-89



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	$h_{FE} \text{ @}$		I_C [A]	V_{CE} [V]	$V_{CE(sat)} \text{ @}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
	2STF2220	20	20	1.5	1.4	120		1.5	2	0.45	1.5	150
STF724	STF826	30	60	3	1.4	80		1	2	0.4	1	50
2STF1340*	2STF2340*	40	40	3	1.4	140		3	2	0.5	3	150
2STF1360	2STF2360*	60	80	3	1.4	160	400	1	2	0.5	3	150
STF715	STF817A	80	140 (-80)	1	1.4	40		1	2	0.5	1	100

SOT23-3L



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	$h_{FE} \text{ @}$		I_C [A]	V_{CE} [V]	$V_{CE(sat)} \text{ @}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
2STR1215	2STR2215	15	15	1.5	0.5	200	560	0.5	2	0.5	1	100
2STR1230	2STR2230	30	30	1.5	0.5	180	560	0.5	2	0.5 (-0.55)	1	100
2STR1160*	2STR2160*	60	60	1	0.5	180		0.5	2	0.25	0.5	50

SOT23-6L



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	$h_{FE} \text{ @}$		I_C [A]	V_{CE} [V]	$V_{CE(sat)} \text{ @}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
	STT818B	30	30	3	1.2	100		2.5	3	0.5	2	20

DPAK and IPAK



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	$h_{FE} \text{ @}$		I_C [A]	V_{CE} [V]	$V_{CE(sat)} \text{ @}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
STD724T4	STD826T4	30	60	3	15	100	300	0.1	2	0.4	1	50
	STD790AT4	30	40	3	15	100	300	0.5	2	0.7	3	30
STD878T4	STD888T4	30	45	5	15	150	300	0.5	1	1.5	10	500
STD1805T4	STD2805T4*	60	150	5	15	85		5	2	0.06	5	200
STD1805-1		60	150	5	15	85		5	2	0.06	5	200
STD1802T4		60	80	3	15	200	400	0.1	2	0.4	3	150
2STD1665T4		65	65	6	15	90		5	1	0.38	6	150

* Coming soon Suffix "T4" = DPAK in tape and reel Suffix "-1" = IPAK in tubes

Totem Pole (SO-8 double island)



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	h_{FE} @		I_C [A]	V_{CE} [V]	$V_{CE(sat)}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
STS01DTP06		30	60	3	1.6	100		1	2	0.7	2	100
STS05DTP03		30	45	5	1.6	100		3	2	0.7	3	100
STS01DTP08*		80	80	1.5	1.6	80		0.5	2	0.7	1	50

T0-92 and T0-92L



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	h_{FE} @		I_C [A]	V_{CE} [V]	$V_{CE(sat)}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
	2STX2220	20	20	1.5	0.9	120		1.5	2	0.45	1.5	150
STX724	STX826	30	60	3	0.9	80		1	2	0.4	1	50
STX690A	STX790A	30	40	3	0.9	100	400	0.5	2	0.7	3	100
STX715	STX817A	80	140 (-80)	1	0.9	40		1	2	0.5	1	100
2STX1360		60	80	3	1	160	400	1	2	0.5	3	100
2STL1360 ^A		60	80	3	1.2	160	400	1	2	0.5	3	100

^AT0-92L

SOT-32



Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	h_{FE} @		I_C [A]	V_{CE} [V]	$V_{CE(sat)}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
2SD882	2SB772	30	60	3	12.5	100	300	0.1	2	0.4	1	50
ST600K	ST631K	120	120	1	12.5	50		0.5	5	0.5	0.5	50

T0-220FP (UL Compliant)



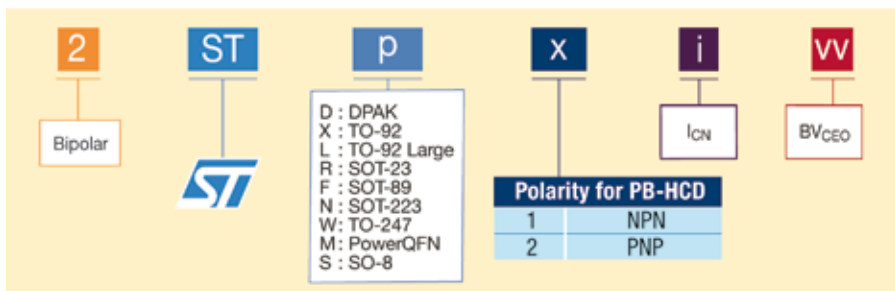
Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	h_{FE} @		I_C [A]	V_{CE} [V]	$V_{CE(sat)}$ max [V]	I_C [A]	I_B [mA]
NPN	PNP					min	max					
2SD2012		60	60	3	25	100	320	0.5	5	1	2	200

Application specific - Audio

Part number		V_{CE0} [V]	V_{CB0} V_{CES} V_{CEV} [V]	I_C [A]	P_{tot} [W]	Package	Application
NPN	PNP						
TIP35C	TIP36C	100	100	25	125	SOT-93	Car booster
TIP35CW	TIP36CW	100	100	25	125	T0-247	Car booster
2STW1695*	2STW4468*	140	140	10	100	T0-247	Home audio
2STW1693*	2STW4466*	80	100	6	60	T0-247	Home audio

* Coming soon

Nomenclature



New PB-HCD low voltage power bipolar transistor nomenclature

Cross reference

Competition p/n	ST Replacement	Package	Remarks	Competition p/n	ST Replacement	Package	Remarks
ROHM				ZETEX			
2SB1182	STD888T4	DPAK		FZT651	2STN1360	SOT-223	
2SB1188	STN790A	SOT-223		BCX68	STF715	SOT-89	
2SB1240	STX790A-AP	TO-92		BCX69	STF817A	SOT-89	
2SB1443	STX790A-AP	TO-92		FCX491	STF715	SOT-89	
2SD1760	STD1802T4	DPAK		F CX493	STF715	SOT-89	
2SD1766	2STN1360	SOT-223		FCX591	STF817A	SOT-89	
2SD1864	STSA1805	TO-92		FCX593	STF817A	SOT-89	
2SD2653	2STR1215	SOT-23		FZT1053A	STN851	SOT-223	
2SD2150	STF724	SOT-89		FZT1147A	STN888	SOT-223	
2SB1424	STF826	SOT-89		FZT489	STN715	SOT-223	
2SC4672	2STF1360	SOT-89		FZT491	STN715	SOT-223	
2SA1797	STD888T4	DPAK		FZT493	STN715	SOT-223	
2SD2118	STD878T4	DPAK		FZT591	STN817A	SOT-223	
2SB1197	STF826	SOT-89	Alternative STF817A	FZT593	STN817A	SOT-223	
2SB1590	2STR2215	SOT23		FZT717	STN790A	SOT-223	
2SA2073	2STD2360	DPAK	Coming soon	ZTX1049A	STSA851	TO-92	
2SC5826	2STX1360	TO-92	Different package	ZTX1053A	STSA851	TO-92	
2SD2114K	2STR1215	SOT23		ZTX450	STX715	TO-92	
2SD2144S	2STX1360-AP	TO-92	Ammopack upon request	ZTX451	STX715	TO-92	
ZETEX				ZTX452	STX715	TO-92	
ZTX851	STSA851	TO-92		ZTX551	STX817A	TO-92	
FZT851	STN851	SOT-223		ZTX552	STX817A	TO-92	
FCX589	STD888T4	DPAK		ZTX553	STX817A	TO-92	
NZT560A	2STN1360	SOT-223		ZTX617	STSA1805	TO-92	
FMMT618	2STR1215	SOT-23		ZTX651	STX715	TO-92	2STX1360
FMMT718	2STR2215	SOT-23		ZTX652	STX715	TO-92	2STX1360
				ZTX717	STX790A	TO-92	
				ZTX751	STX817A	TO-92	
				ZTX752	STX817A	TO-92	
				ZTX792A	STX790A	TO-92	

Fairchild			
KSC2982	STF724	SOT-89	

HITACHI			
2SB647	STX817A	TO-92	Nearest
2SB647A	STX817A	TO-92	Nearest
2SD468	2STX1230	TO-92	
2SD667	STX715	TO-92	Nearest
2SD667A	STX715	TO-92	Nearest

HSMC			
HJ772	STD826	DPAK	
HJ882	STD724	DPAK	
HA8050	STX690A	TO-92	Central collector PIN
HA8550	STX790A	TO-92	Central collector PIN
HSD882S	STX724	TO-92	Alternative 2STX690A
HSD667	STX715	TO-92	

KEC			
KTA1273	STX826	TO-92	
KTA1281	STX790A	TO-92	Nearest
KTB764	STX817A	TO-92	
KTC3205	STX690A	TO-92	
KTC3209	2STL1360	TO-92 Large	
KTD863	STX715	TO-92	

NEC			
2SD1615	STF715	SOT-89	
2SD882	2SD882	SOT-32	

SANYO			
2SC5706	STD1805-1	IPAK	
2SD1802	STD1802T4	DPAK	

TOSHIBA			
2SA1242	STD888T4	DPAK	
2SC2655	2STL1360	TO-92 Large	
2SC5198	2STW4468	TO-247	Coming soon
2SA1941	2STW1695	TO-247	Coming soon

UTC			
2SD1804	STD1805-1	IPAK	

ONSEMI			
MBT35200MT1G	STT818B	SOT-23	
MMJT9435T1G	STN790A	SOT-223	

Philips			
2PD602AR	2STR1160	SOT-23	
PBSS4140T	2STR1160	SOT-23	
BCP69	STN826	SOT-223	Std product: BCP69
BCX56-10	STF715	SOT-89	Std product: BCX56-16
BCP53-16	STN817A	SOT-223	
PBSS5520X	2STF2550	SOT-89	Coming soon
PBSS5350Z	2STF2360	SOT-89	Coming soon
PBSS5540Z	2STN2540	SOT-223	Coming soon

SANKEN			
2SA1695	2STW1695	TO-247	Coming soon
2SC4468	2STW4468	TO-247	Coming soon
2SA1693	2STW1693	TO-247	Coming soon
2SC4466	2STW4466	TO-247	Coming soon



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