

RF Bipolar Transistors — continued

High Power, HF/VHF and UHF

Philips Semiconductors



SOT-121 SOT-123 SOT-122A

- Suitable for mobile radio transmitters
- Optimised temperature profile
- HF/VHF and UHF wave-band

V <sub>CEO</sub> max	I <sub>c</sub> av	P <sub>tot</sub> (rf)	f*	V <sub>S</sub> * Supply	P <sub>LOAD</sub> *	G <sub>p</sub> * min	η <sub>D</sub> * min	Package	Mfrs. List No.
V	A	W	MHz	V	W	dB	%		
<b>HF/VHF</b>									
16	9	100	1.6-28	12.5	30	19.5 typ.	35 typ.	SOT-120	BLW60C
18	4	20	175Δ	13.5Δ	8Δ	9Δ	70Δ	SOT-123	BLV10
33	15	230	1.6-28	28	175	11.5	40	SOT-121	BLW97
55	2.5	94	1.6-28	50	65	18 typ.	45 typ.	SOT-123	BLW50F
55	12	340	1.6-28	50	200	6.5 typ.	67 typ.	SOT-121	BLW96
<b>UHF</b>									
16	1.2	22.5	470Δ	12.5Δ	7Δ	8.5Δ	55Δ	SOT-122A	BLU97

\* RF performance measured under SSB (Class A-B) mode of operation  
 Δ RF performance measured under CW (Class B) mode of operation

**Warning:** These products contain a beryllium oxide disc, the dust of which is toxic. Provided this disc is not damaged, the device is entirely safe. Safe disposal precautions must be carried out according to local regulations.

SD341

Mfrs. List No.	Order Code	1+	5+	10+
BLU97	742-132 †			
BLV10	742-144			
BLW50F	742-168			
BLW60C	742-170			
BLW96	742-181			
BLW97	742-193			

† Available until stocks are exhausted

Transistor/Diode Kits

A.F. Transistor and Diode Kit



A unique, 41 piece kit including:

- 24 AF transistors and arrays
- 16 AF diodes and arrays
- Product CD-ROM, with datasheets, package outlines, and footprints
- Application CD-ROM with application notes, Spice models and S-parameters
- Active bias controller
- Wide range of package styles
- Refills available separately

Mfrs. List No. HLSK030

Contents:

V <sub>CEO</sub>	I <sub>c</sub> (pk)	P <sub>tot</sub>	H <sub>fe</sub>	@ I <sub>c</sub>	V <sub>CE</sub> (Sat)	@ I <sub>c</sub>	Package	Device marking	Mfrs. List No.
V	mA	mW	min.	max.	V	mA			
<b>Single NPN Transistor</b>									
40	200	330	100	300	10	0.3	50	SOT-23	1A SMBT3904
40	600	330	100	300	150	0.3	500	SOT-23	1P SMBT2222A
45	200	250	200	450	2	0.65	100	SOT-323	1F BC847BW
45	200	250	200	450	2	0.25	10	SOT-323	2F BC850BW
45	1000	250	160	400	100	0.7	50	SOT-323	6B BC817-25W
65	200	250	200	450	2	0.65	100	SOT-323	1B BC846BW
80	500	330	100	—	100	0.25	100	SOT-23	1G SMBTA06
<b>Dual NPN Transistor</b>									
40	200	250	100	300	10	0.3	50	SOT-363	1A SMBT3904S
45	200	250	100	630	2	0.65	100	SOT-363	1C BC847S
65	200	250	100	450	2	0.65	100	SOT-363	1D BC846S
<b>Dual NPN/PNP Transistor</b>									
40	200	250	100	300	10	0.4	50	SOT-363	S3p SMBT3904PN
45	200	250	110	630	2	0.65	100	SOT-363	1P BC847PN
65	200	250	200	450	2	0.65	100	SOT-363	1O BC846PN
<b>Single PNP Transistor</b>									
15	6000	1700	85	475	500	0.15	2000	SOT-595	PAs BCP72M
40	200	330	100	300	10	0.4	50	SOT-23	2A SMBT3906
45	200	250	220	475	2	0.65	100	SOT-323	3F BC857BW
45	200	250	220	475	2	0.65	100	SOT-323	4F BC860BW
45	200	250	420	800	2	0.65	100	SOT-323	3G BC857CW
45	1000	250	160	400	100	0.7	500	SOT-323	5B BC807-25W
60	600	330	100	300	150	0.4	150	SOT-23	2F SMBT2907A
80	500	330	100	—	100	0.25	100	SOT-23	2G SMBTA56
<b>Dual PNP Transistor</b>									
40	200	250	100	300	10	0.4	50	SOT-363	2A SMBT3906S
45	200	250	100	630	2	0.65	100	SOT-363	3C BC857S
65	200	250	200	475	2	0.65	100	SOT-363	3D BC856S

V <sub>r</sub>	I <sub>r</sub>	V <sub>br</sub>	I <sub>r</sub> (max)	V <sub>r</sub>	V <sub>r</sub> @	I <sub>r</sub>	t <sub>rr</sub>	Package	Device marking	Mfrs. List No.
V	mA	V	μA	V	V	mA	ns			
<b>Single Diode</b>										
10	3	10	300	5	0.2	100	—	SOD-323	3	BAT60A
10	3	10	5	5	0.3	100	—	SOD-323	3	BAT60B
40	750	40	50	30	0.7	250	—	SOD-323	C	BAT165
75	250	75	0.005	75	1.25	150	—	SOT-23	JV	BAS116
75	250	75	1	75	1.25	150	6	SOD-323	A6	BAS16-03W
<b>Dual Diode</b>										
75	200	85	1	75	1.25	150	6	SOT-343	JT	BAS28W
<b>Dual Diode – Common Anode</b>										
40	250	40	2	30	0.75	100	—	SOT-323	67	BAT64-07W
<b>Dual Diode – Common Cathode</b>										
40	250	40	2	30	0.75	100	—	SOT-323	65	BAT64-05W
70	200	70	2.5	70	1.25	150	6	SOT-363	A4	BAV70W
<b>Dual Diode – Series</b>										
40	250	40	2	30	0.75	100	—	SOT-323	64	BAT64-04W
70	200	70	5	70	1.25	150	3	SOT-23	JY	BAV199
70	200	70	2.5	70	1.25	150	6	SOT-323	A7	BAV99W
240	400	240	50	240	0.37	20	—	SOT-23	4Ms	BAT240A
<b>Quad Diode – Common Anode</b>										
70	70	70	0.1	50	0.75	10	—	SOT-363	76s	BAS70-06S
<b>Quad Diode – Common Cathode</b>										
70	200	70	2.5	70	1.25	150	6	SOT-363	A4	BAV70S
<b>Quad Diode – Series</b>										
70	200	70	2.5	70	1.25	150	6	SOT-363	A7	BAV99S

DC Characteristics with stabilised NPN transistors

V <sub>ce</sub>	Relative Change of I <sub>C</sub> /I <sub>C</sub>	vs. V <sub>s</sub>	vs. T (amb)	Package	Device Marking	Mfrs. List No.
V	vs. I <sub>FE</sub>					
<b>Active Bias Controller</b>						
50	0.08	0.15	2%/K	SOT-343	W4s	BCR400W

SD122 / SD122A

Mfrs. List No.	Order Code	1+	5+	10+	1K+	3K+
<b>Order Multiple=1</b>						
Mfrs. List No.						
<b>Transistor/Diode Kit</b>						
HLSK030	301-0235					
<b>Order Multiple=10</b>						
BAS116	743-215.					
		10+	100+	1K+	3K+	
BAS16-03W	300-7789					
BAS28W	300-7881					
BAS70-06S	300-7893					
BAT165	300-7790					
BAT240A	300-9002					
BAT60A	300-7807					
BAT60B	300-7819					
BAT64-04W	300-7820					
BAT64-05W	300-7832					
BAT64-07W	300-7856					
		10+	100+	1K+	3K+	
BAV199	743-227.					
		10+	100+	250+	1K+	3K+
BAV70S	300-7868					
BAV70W	300-8629					
BAV99S	300-7870					
BAV99W	300-8630					
BC80725W	300-7571					
BC817-25W	300-7558					
		10+	100+	1K+	3K+	
BC846BW	743-069.					
		10+	100+	250+	1K+	3K+
BC846PN	300-7765					
BC846S	300-7741					
BC847BW	300-7560					
BC847PN	300-7704					
BC847S	300-7686					
BC850BW	300-7601					
BC856S	300-7753					
BC857BW	300-7583					
BC857CW	300-7595					
BC857S	300-7698					
BC860BW	300-7613					
BCP72M	300-8307					
BCR400W	300-8319.					
SMBT2222A	300-7625					
SMBT2907A	300-7637					
SMBT3904	300-7649					
SMBT3904PN	300-7730					
SMBT3904S	300-7716					
SMBT3906	300-7650					
SMBT3906S	300-7728					
SMBTA06	300-7662					
SMBTA56	300-7674					

Temperature Conversion

