

### Order Multiple=10

Mfrs. List No.	I.D.	Order Code	10+	100+	1K+	3K+
MMUN2211LT1	A8A	473-583				
MMUN2212LT1	A8B	473-595				
MMUN2213LT1	A8C	473-601				
MMUN2214LT1	A8D	473-613				
MMUN2215LT1	A8E	473-625				
MMUN2216LT1	A8F	473-637				
MMUN2111LT1	A6A	473-649				
MMUN2113LT1	A6C	473-662				
MMUN2115LT1	A6E	473-686				
MMUN2116LT1	A6F	473-698				

### Order Multiple=5

Mfrs. List No.	Order Code	5+	25+	100+	250+	1K+
BC868	305-0531					
BCP51	316-4822					
BCP51-16	316-4834					
BCP53	541-436					
BCP53-16	302-3606					
BCP54	316-4792					
BCP56	541-448					
BCP56-16	302-3618					
BCP69	302-3620					
BSR42	305-0580					
BSR43	302-3631					
BST15	316-4664					
BST40	316-4627					

## Special Function Transistors

### AC Line Switch



TO-92



SOT-223

- Dedicated AC line switch with in-built transient voltage suppression
- Meets IEC1000-4-5
- Direct microcontroller compatibility
- Suitable for driving low power inductive or resistive loads
- Single or quad packaged array



$I_T$ rms A	$V_{RRM}/$ $V_{DRM}$ V	$V_{EP}$ KV	$I_{TSM}$ A	$I_{GT}$ mA	$V_{GT}$ V	Package	Mfrs. List No.
0.8	500	2	7.3	10	1	TO-92	ACS108-SA
0.8	500	2	7.3	10	1	SOT-223	ACS108-SN
0.2	500	2	5.0	10	1	DIL20	ACS402-5SB4

SD126

Mfrs. List No.	Order Code	1+	25+	100+	250+	1K+
ACS108-SA	302-2808					
ACS108-SN	302-2810					
ACS402-5SB4	302-2821					

## Medium Power Bipolar Transistors ( $P_{tot}$ 1W to 3W)

### SOT-89

Phillips Semiconductors



$V_{CEO}$ V	$I_C$ mA	$f_T$ typ. MHz	$h_{FE}$ min.	$I_C$ @ mA	$P_{tot}$ mW	Device Marking	Mfrs. List No.
45	1000	130	40	150	1390	BA	BCX54
60	1000	130	40	150	1390	BE	BCX55
60	1000	130	100	150	1390	BM	BCX55-16
80	1000	130	40	150	1300	BH	BCX56
80	1000	130	100	150	1300	BL	BCX56-16
20	1000	40	100	500	1400	CEC	BC869
45	1000	50	40	150	1300	AA	BCX51
45	1000	50	100	150	1300	AD	BCX51-16
60	1000	50	40	150	1300	AE	BCX52
80	1000	50	40	150	1300	AH	BCX53
80	1000	50	100	150	1300	AL	BCX53-16

SD79

### Order Multiple=10

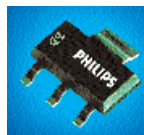
Mfrs. List No.	Order Code	10+	100+	1K+	3K+
BC869	300-0722				

### Order Multiple=5

Mfrs. List No.	Order Code	5+	25+	100+	1K+
BCX51	300-0886				
BCX51-16	316-4639				
BCX52	300-0898				
BCX53	316-4640				
BCX53-16	316-4652				
BCX54	316-4573				
BCX55	316-4585				
BCX55-16	316-4597				
BCX56	316-4603				
BCX56-16	316-4615				

### SOT-89, SOT-223

Phillips Semiconductors



SOT-223



SOT-89

$V_{CEO}$ V	$V_{CBO}$ V	$I_C$ (av) A	$h_{FE}$ min.	@	$I_C$ A	$P_{tot}$ W	Package	Mfrs. List No.
20	32	1.0	85	0.5	1.4	1.35	SOT-89	BC868
20	32	2.0	85	0.5	1.35	1.3	SOT-223	BCP69
45	—	1.0	40	0.15	1.3	—	SOT-223	BCP54
45	—	1.0	100	0.15	1.3	—	SOT-223	BCP51-16
80	90	1.0	40	0.1	1.0	—	SOT-89	BSR42
80	90	2.0	100	0.1	1.4	—	SOT-89	BSR43
80	100	1.0	25	0.5	1.5	—	SOT-223	BCP56
80	100	1.5	100	0.15	1.3	—	SOT-223	BCP56-16
200	200	0.2	30	0.05	1.3	—	SOT-89	BST15
250	300	0.1	—	—	1.3	—	SOT-89	BST40

SD86

### SOT-223 General Purpose

Application Code Key: GP = General Purpose Amplifier/Switch, HV = High Voltage



	$V_{CEO}$ V	$V_{CBO}$ V	$I_C$ A	@ min.	$h_{FE}$ min.	$I_C$ A	$P_{tot}$ W	Appln. Code	Mfr.	Mfrs. List No.
NPN	40	75	1.0	100	0.15	1.0	GP	FCH	PZT2222A	
	60	60	1.0	40	0.15	1.0	GP	FCH	BCP55	
	80	100	1.0	40	0.15	1.0	GP	FCH	BCP56	
	300	300	0.2	40	0.03	1.0	HV	FCH	PZTA42	
	60	60	0.8	100	0.15	1.0	GP	FCH	PZT2907A	
PNP	80	100	1.2	40	0.15	1.5	GP	FCH	BCP53	
	300	300	0.1	40	0.01	1.0	HV	FCH	PZTA92	

SD397

### Order Multiple=5

Mfrs. List No.	Order Code	5+	25+	100+	250+	1K+
BCP53	932-966					
BCP55	.932-930					
BCP56	932-942					
PZT2222A	932-875					
PZT2907A	932-899					
PZTA42	.932-917					
PZTA92	.932-929					

### General Purpose T0-92, T0-39, T0-5

High performance, low frequency devices typically with current ratings 1A to 2A. Up to 1W power dissipation.

$V_{CEO}$ max. V	$I_C$ A	$h_{FE}$ min.	@	$I_C$ mA	$V_{CE}$ (Sat) max. V	@	$I_C$ mA	Package and Pin Out	Mfr.	Mfrs. List No.
25	2.0	100	1000	0.5	2000	—	2000	TO-92(e)	ZET	ZTX649
40	1.0	50	150	1.4	150	—	150	TO-5	—	ZTX749
45	1.0	40	150	—	—	—	—	TO-92(h)	PS	BC635
45	1.0	100	150	0.25	150	—	150	TO-92(e)	ZET	ZTX450
45	2.0	100	500	0.5	2000	—	2000	TO-92(e)	ZET	ZTX650
50	2.0	30	500	0.8	500	—	500	TO-35	ST	2N5323
60	1.0	40	150	—	—	—	—	TO-92(h)	PS	BC638
60	1.0	50	150	0.35	150	—	150	TO-92(e)	ZET	ZTX451
60	2.0	40	500	1.0	1000	—	1000	TO-39	—	BC441
60	2.0	100	500	0.5	2000	—	2000	TO-92(e)	ZET	ZTX651
65	1.0	40	150	0.65	150	—	150	TO-39	—	ZTX751
75	2.0	30	500	0.5	500	—	500	TO-39	ST	2N5320
80	1.0	40	150	0.7	150	—	150	TO-92(e)	ZET	ZTX552
80	1.0	40	150	—	—	—	—	TO-92(h)	PS	BC639
80	1.0	63	150	0.5	500	—	500	TO-92(e)	PS	BC639-10
100	1.0	40	150	0.7	150	—	150	TO-92(e)	ZET	ZTX453
100	2.0	100	500	0.5	2000	—	2000	TO-92(e)	ZET	ZTX653

FOR PACKAGE AND PIN-OUT DETAILS, SEE PAGE 358

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### Order Multiple=5

Mfrs. List No.	Order Code	5+	25+	100+	1K+
BC441	.356-992				
BC461	.357-005				
BC635	.357-200				
BC638	305-0440				
BC639	357-248				
BC639-10	305-0452				
BC640	357-250				
ZTX450	.358-137				
ZTX451	.358-149				
ZTX453	.358-150				
ZTX550	.358-230				
ZTX551	.358-241				
ZTX552	.358-253				
ZTX553	.432-829				
ZTX649	.358-265				
ZTX650	.358-277				
ZTX651	.358-289				
ZTX653	.358-290				
ZTX749	.432-970				
ZTX750	.358-344				
ZTX751	.358-356				
ZTX753	.358-368				
2N2102	.358-460				
2N4036	.358-885				
2N4037	.358-897				
Order Multiple=1		1+	25+	100+	1K+
2N5320	359-051				
2N5322	359-063				
2N5323	359-075				

Continued