



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



NPN - BC368; PNP - BC369

Amplifier Transistors

Voltage and Current are Negative for PNP Transistors

Features

- These are Pb-Free Devices*

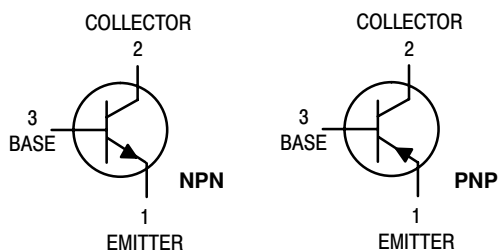
MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Collector – Emitter Voltage	V_{CEO}	20	Vdc
Collector – Emitter Voltage	V_{CES}	25	Vdc
Emitter – Base Voltage	V_{EBO}	5.0	Vdc
Collector Current – Continuous	I_C	1.0	Adc
Total Device Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	625 5.0	mW mW/ $^\circ\text{C}$
Total Device Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	1.5 12	W mW/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	200	$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	83.3	$^\circ\text{C}/\text{W}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



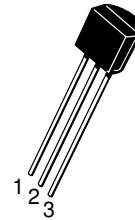
*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.



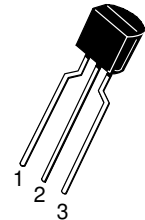
ON Semiconductor®

<http://onsemi.com>

TO-92
CASE 29
STYLE 14

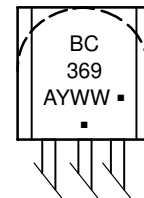
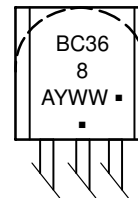


STRAIGHT LEAD
BULK PACK



BENT LEAD
TAPE & REEL
AMMO PACK

MARKING DIAGRAMS



A = Assembly Location
Y = Year
WW = Work Week
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping
BC368G	TO-92 (Pb-Free)	5000 Units / Bulk
BC368ZL1G	TO-92 (Pb-Free)	2000 / Ammo Pack
BC369ZL1G	TO-92 (Pb-Free)	2000 / Ammo Pack

NPN – BC368; PNP – BC369

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector–Emitter Breakdown Voltage (I _C = 10 mA, I _B = 0)	V _{(BR)CEO}	20	–	–	Vdc
Collector–Base Breakdown Voltage (I _C = 100 μA, I _E = 0)	V _{(BR)CBO}	25	–	–	Vdc
Emitter–Base Breakdown Voltage (I _E = 100 μA, I _C = 0)	V _{(BR)EBO}	5.0	–	–	Vdc
Collector Cutoff Current (V _{CB} = 25 V, I _E = 0) (V _{CB} = 25 V, I _E = 0, T _J = 150°C)	I _{CBO}	–	–	10 1.0	μAdc mAdc
Emitter Cutoff Current (V _{EB} = 5.0 V, I _C = 0)	I _{EBO}	–	–	10	μAdc
ON CHARACTERISTICS					
DC Current Gain (V _{CE} = 10 V, I _C = 5.0 mA) (V _{CE} = 1.0 V, I _C = 0.5 A) (V _{CE} = 1.0 V, I _C = 1.0 A)	h _{FE} BC368, 369	50 85 60	– – –	– 375 –	–
Bandwidth Product (I _C = 10 mA, V _{CE} = 5.0 V, f = 20 MHz)	f _T	65	–	–	MHz
Collector–Emitter Saturation Voltage (I _C = 1.0 A, I _B = 100 mA)	V _{CE(sat)}	–	–	0.5	V
Base–Emitter On Voltage (I _C = 1.0 A, V _{CE} = 1.0 V)	V _{BE(on)}	–	–	1.0	V

NPN – BC368; PNP – BC369

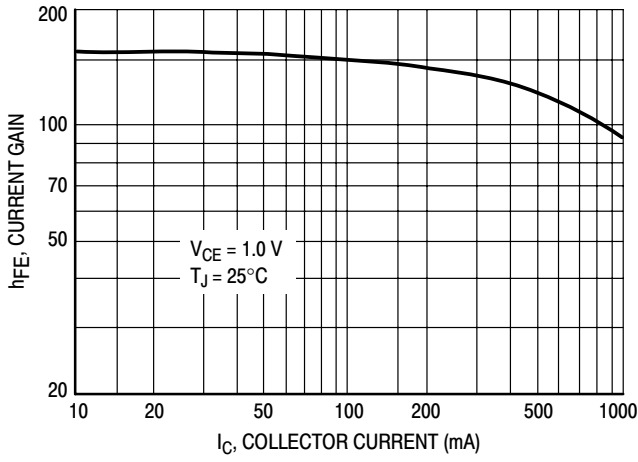


Figure 1. DC Current Gain

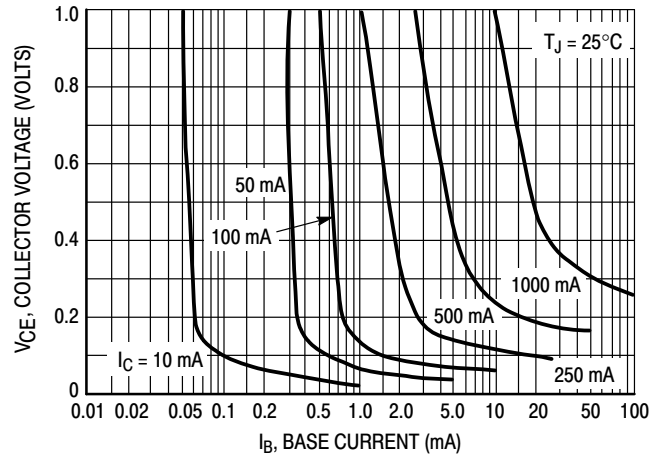


Figure 2. Collector Saturation Region

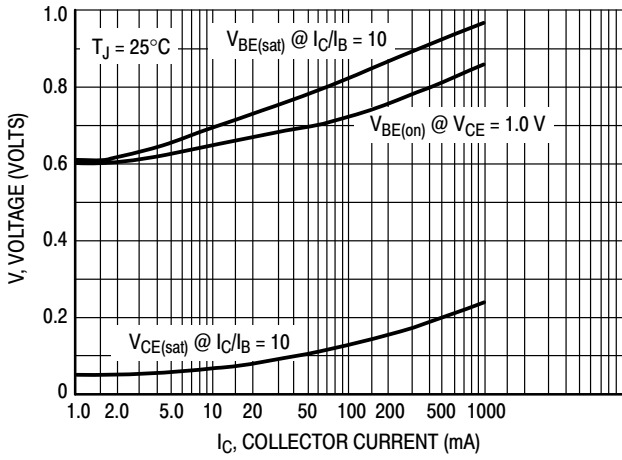


Figure 3. "On" Voltages

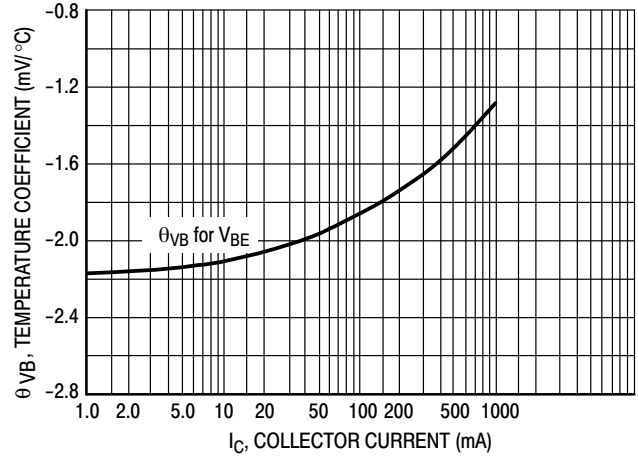


Figure 4. Temperature Coefficient

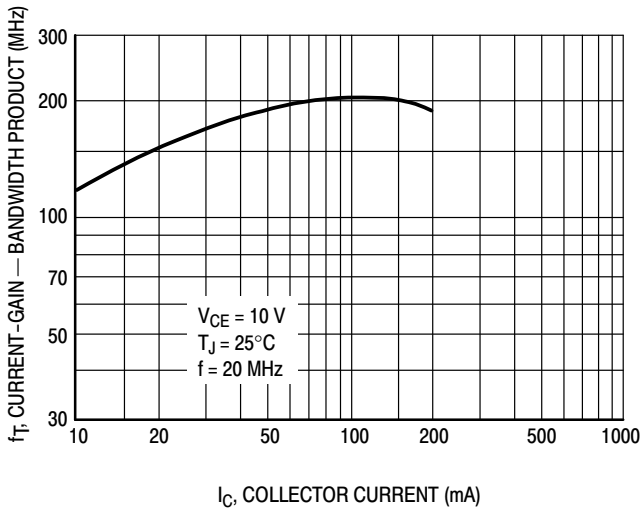


Figure 5. Current-Gain — Bandwidth Product

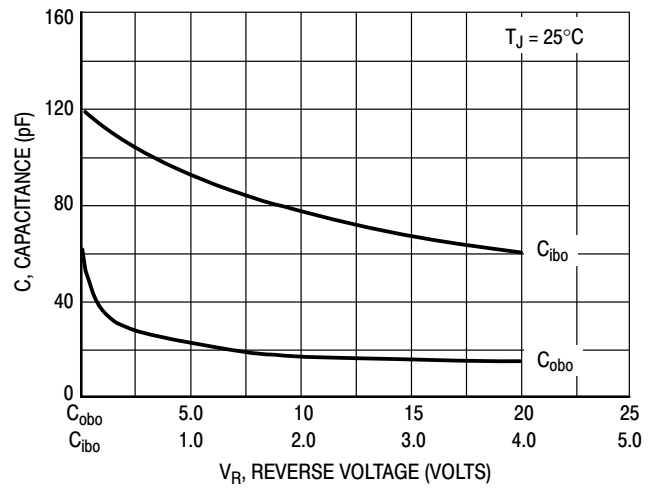
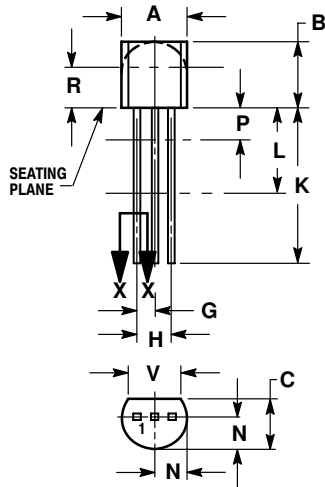


Figure 6. Capacitance

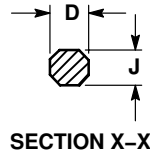
NPN – BC368; PNP – BC369

PACKAGE DIMENSIONS

TO-92 (TO-226)
CASE 29-11
ISSUE AM



STRAIGHT LEAD
BULK PACK

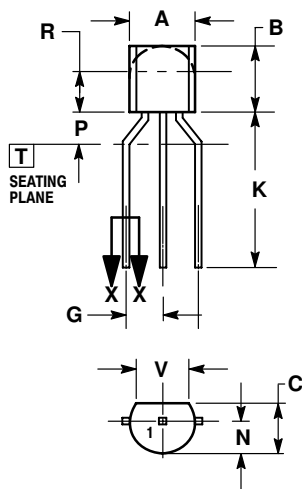


SECTION X-X

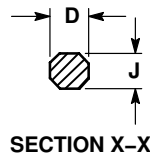
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.175	0.205	4.45	5.20
B	0.170	0.210	4.32	5.33
C	0.125	0.165	3.18	4.19
D	0.016	0.021	0.407	0.533
G	0.045	0.055	1.15	1.39
H	0.095	0.105	2.42	2.66
J	0.015	0.020	0.39	0.50
K	0.500	---	12.70	---
L	0.250	---	6.35	---
N	0.080	0.105	2.04	2.66
P	---	0.100	---	2.54
R	0.115	---	2.93	---
V	0.135	---	3.43	---



BENT LEAD
TAPE & REEL
AMMO PACK



SECTION X-X


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. CONTOUR OF PACKAGE BEYOND DIMENSION R IS UNCONTROLLED.
4. LEAD DIMENSION IS UNCONTROLLED IN P AND BEYOND DIMENSION K MINIMUM.

DIM	MILLIMETERS	
	MIN	MAX
A	4.45	5.20
B	4.32	5.33
C	3.18	4.19
D	0.40	0.54
G	2.40	2.80
J	0.39	0.50
K	12.70	---
N	2.04	2.66
P	1.50	4.00
R	2.93	---
V	3.43	---

STYLE 14:

1. EMITTER
2. COLLECTOR
3. BASE

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