BCY78, VII, VIII, IX, X
BCY79, VII, VIII, IX, X

SILICON
PNP TRANSISTORS

TO-18 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR BCY78 and BCY79 series types are silicon PNP epitaxial planar transistors, mounted in a hermetically sealed metal case, designed for low noise amplifier and switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)	**SYMBOL**	**BCY78**	**BCY79**	**UNITS**
Collector-Base Voltage	V_{CBO}	32	45	V
Collector-Emitter Voltage	V_{CEO}	32	45	V
Emitter-Base Voltage	V_{EBO}	5.0		V
Continuous Collector Current	I_C	100		mA
Peak Collector Current	I_{CM}	200		mA
Peak Base Current	I_{BM}	200		mA
Power Dissipation	P_D	340		mW
Power Dissipation (T_C=25°C)	P_D	1.0		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200		°C
Thermal Resistance	Θ_{JA}	450		°C/W
Thermal Resistance	Θ_{JC}	150		°C/W

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

SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**UNITS**
I_{CBO}	V_{CB}=Rated V_{CBO}		15	nA
I_{CBO}	V_{CB}=Rated V_{CBO}, T_A=150°C		10	µA
I_{EBO}	V_{EB}=5.0V		20	nA
BV_{CBO}	I_C=10µA (BCY78)	32		V
BV_{CBO}	I_C=10µA (BCY79)	45		V
BV_{CEO}	I_C=2.0mA (BCY78)	32		V
BV_{CEO}	I_C=2.0mA (BCY79)	45		V
BV_{EBO}	I_E=1.0µA	5.0		V
$V_{CE(SAT)}$	I_C=10mA, I_B=250µA		0.25	V
$V_{CE(SAT)}$	I_C=100mA, I_B=2.5mA		0.80	V
$V_{BE(SAT)}$	I_C=10mA, I_B=250µA	0.60	0.85	V
$V_{BE(SAT)}$	I_C=100mA, I_B=2.5mA	0.70	1.20	V
$V_{BE(ON)}$	V_{CE}=5.0V, I_C=2.0mA	0.60	0.75	V

		BCY78-VII BCY79-VII			**BCY78-VIII BCY79-VIII**		**BCY78-IX BCY79-IX**		**BCY78-X BCY79-X**	
		MIN	**TYP**	**MAX**	**MIN**	**MAX**	**MIN**	**MAX**	**MIN**	**MAX**
h_{FE}	V_{CE}=5.0V, I_C=10µA	-	140	-	30	-	40	-	100	-
h_{FE}	V_{CE}=5.0V, I_C=2.0mA	120	-	220	180	310	250	460	380	630
h_{FE}	V_{CE}=1.0V, I_C=10mA	80	-	-	120	400	160	630	240	1000
h_{FE}	V_{CE}=1.0V, I_C=100mA	40	-	-	45	-	60	-	60	-

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BCY79, VII, VIII, IX, X

SILICON
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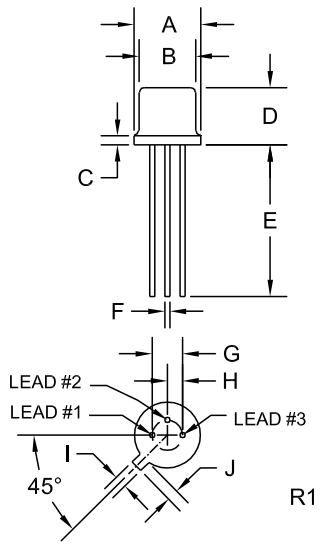
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
f_T	V_{CE}=5.0V, I_C=10mA, f=100MHz	100		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz		7.0	pF
C_{ib}	V_{EB}=0.5V, I_C=0, f=1.0MHz		15	pF
NF	V_{CE}=5.0V, I_C=0.2mA, R_s=2.0kΩ, f=1.0kHz, B=200Hz		10	dB
t_{on}	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		100	ns
t_d	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		50	ns
t_r	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		50	ns
t_{off}	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		700	ns
t_s	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		600	ns
t_f	V_{CC}=3.0V, I_C=10mA, I_{B1}=I_{B2}=1.0mA		100	ns
t_{on}	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		100	ns
t_d	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		35	ns
t_r	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		65	ns
t_{off}	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		400	ns
t_s	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		300	ns
t_f	V_{CC}=10V, I_C=100mA, I_{B1}=I_{B2}=10mA		100	ns

TO-18 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.209	0.230	5.31	5.84
B (DIA)	0.178	0.195	4.52	4.95
C	-	0.030	-	0.76
D	0.170	0.210	4.32	5.33
E	0.500	-	12.70	-
F (DIA)	0.016	0.019	0.41	0.48
G (DIA)	0.100		2.54	
H	0.050		1.27	
I	0.036	0.046	0.91	1.17
J	0.028	0.048	0.71	1.22

TO-18 (REV: R1)

LEAD CODE:
1) Emitter
2) Base
3) Collector

MARKING:
FULL PART NUMBER

R4 (4-June 2013)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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http://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01247
Notification Date:	9/01/22
Last Buy Date:	3/01/23
Last Shipment Date	9/01/23

Summary:The following transistors are discontinued and now classified as of End of Life (EOL).

Although Central Semiconductor Corp. makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
BCY79-VIII	N/A
CEN853	N/A
CZT32C BK	N/A
CZT32C TR	N/A
2N3583	N/A
2N3584	N/A
2N3585	N/A
2N3738	N/A
2N3740	N/A
2N3741	N/A
2N3741A	N/A
2N4299	N/A
2N4900	N/A
2N6107	N/A
2N6317	N/A
2N6318	N/A
2N6467	N/A
2N6468	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit https://my.centralsemi.com/submit-inquiry?type=ER to submit an online inquiry.

https://www.centralsemi.com

Product End of Life Notification

PDN ID:	PDN01259
Notification Date:	6/26/23
Last Buy Date:	12/26/23
Last Shipment Date	6/26/24

Summary:The BCY79-VII transistor is discontinued and now classified as End of Life (EOL).

Although Central Semiconductor makes every effort to continue to produce devices that have been proclaimed EOL (End of Life) by other manufacturers, it is an accepted industry practice to discontinue certain devices when customer demand falls below a minimum level of sustainability. Accordingly, the following product(s) have been transitioned to End of Life status as part of Central's ongoing Product Portfolio Management. Any replacement products are noted below. The effective date for placing last purchase orders will be six (6) months from the date of this notice and twelve (12) months from the notice date for final shipments, and minimum order quantities may apply. The last purchase and shipment dates may be extended if inventory is available.

*** All Plating types (PBFREE,TIN/LEAD) for each item listed are included in this notice.**

Central Part Number	Suggested Replacement
BCY79-VII	N/A

Central would be happy to assist you by providing additional information or technical data to help locate an alternate source if we have no replacement available. If you would like assistance, please visit https://my.centralsemi.com/submit-inquiry?type=ER to submit an online inquiry.