

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

TIP120 TIP121 TIP122 NPN
TIP125 TIP126 TIP127 PNP

SILICON POWER DARLINGTON
COMPLEMENTARY TRANSISTORS

JEDEC TO-220 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR TIP120, TIP125 series types are Complementary Silicon Power Darlington Transistors designed for low speed switching and amplifier applications.

MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$)

	SYMBOL	TIP120 TIP125	TIP121 TIP126	TIP122 TIP127	UNITS
Collector-Base Voltage	V_{CBO}	60	80	100	V
Collector-Emitter Voltage	V_{CEO}	60	80	100	V
Emitter-Base Voltage	V_{EBO}	5.0	5.0	5.0	V
Collector Current	I_C		5.0		A
Collector Current (Peak)	I_{CM}		8.0		A
Base Current	I_B		120		mA
Power Dissipation	P_D		65		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +150		$^{\circ}\text{C}$
Thermal Resistance	θ_{JC}		1.92		$^{\circ}\text{C/W}$

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$ unless otherwise noted)

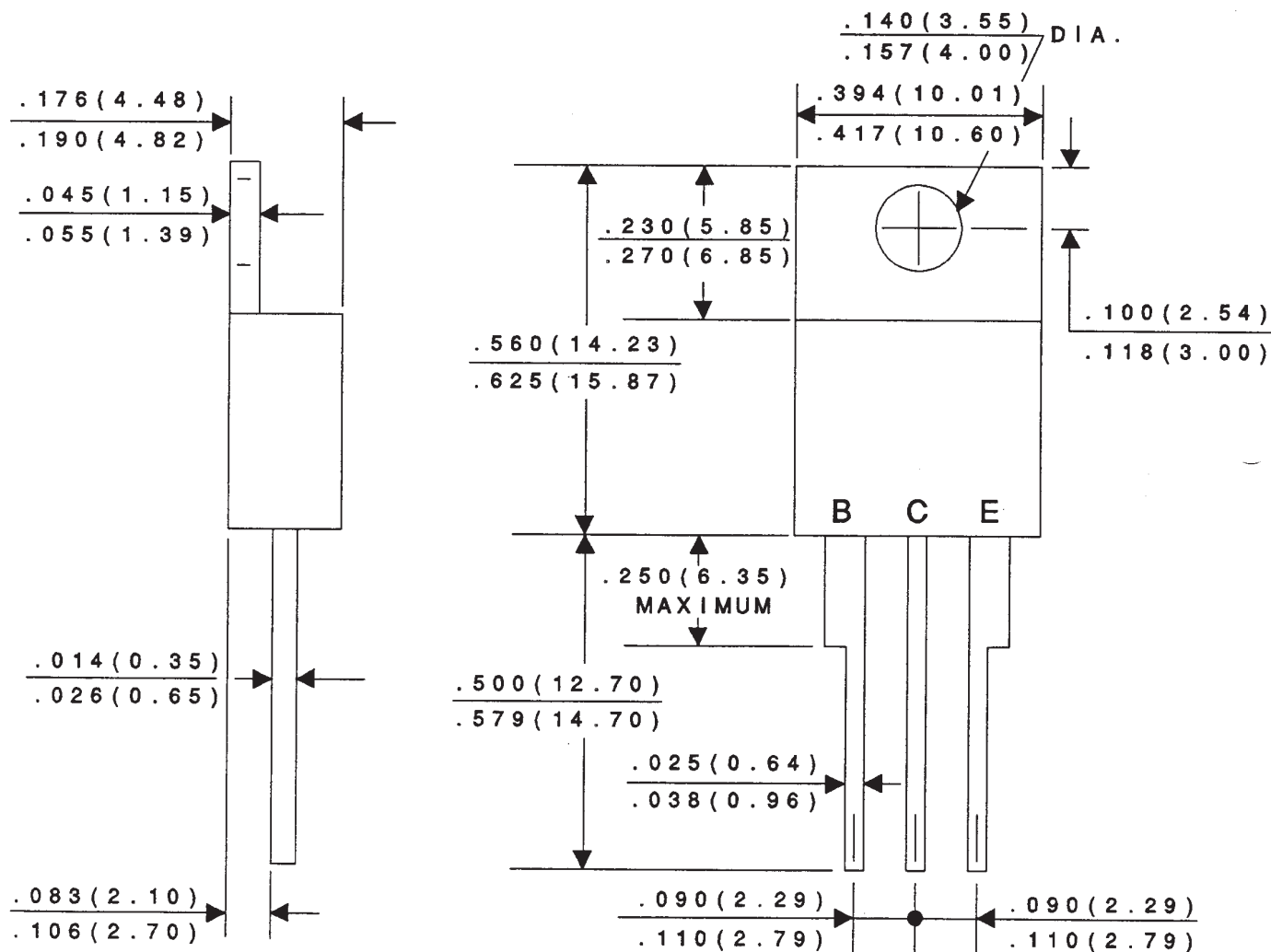
SYMBOL	TEST CONDITIONS	TIP120 TIP125		TIP121 TIP126		TIP122 TIP127		UNITS
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CBO}	$V_{CB}=60\text{V}$		0.2		-		-	mA
I_{CBO}	$V_{CB}=80\text{V}$		-		0.2		-	mA
I_{CBO}	$V_{CB}=100\text{V}$		-		-		0.2	mA
I_{CEO}	$V_{CE}=30\text{V}$		0.5		-		-	mA
I_{CEO}	$V_{CE}=40\text{V}$		-		0.5		-	mA
I_{CEO}	$V_{CE}=50\text{V}$		-		-		0.5	mA
I_{EBO}	$V_{BE}=5.0\text{V}$		2.0		2.0		2.0	mA
BV_{CEO}	$I_C=100\text{mA}$	60		80		100		V
$V_{CE(SAT)}$	$I_C=3.0\text{A}, I_B=12\text{mA}$		2.0		2.0		2.0	V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=20\text{mA}$		4.0		4.0		4.0	V
$V_{BE(ON)}$	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}$		2.5		2.5		2.5	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=0.5\text{A}$	1000		1000		1000		
h_{FE}	$V_{CE}=3.0\text{V}, I_C=3.0\text{A}$	1000		1000		1000		
f_T	$V_{CE}=4.0\text{V}, I_C=3.0\text{A}, f=1.0\text{MHz}$	4.0		4.0		4.0		MHz

(Continued on reverse side)

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise noted)

		<u>MIN</u>	<u>MAX</u>	<u>UNITS</u>
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=0.1\text{MHz}$			
	TIP120, TIP121, TIP122		200	pF
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=0.1\text{MHz}$			
	TIP125, TIP126, TIP127		300	pF

JEDEC TO-220 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

CentralTM
Semiconductor Corp.

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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PDN01043

8/15/16

2/15/17

8/15/17

Summary: The TIP120 series of NPN and PNP Darlington power transistors, with the exception of TIP122 and TIP127, is discontinued and now classified as 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 various 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 Product Management Process. Any replacement product will be noted below. The effective date for placing the last purchase order will be six(6) months from the date of this notice and twelve(12) months from the notice date for final shipments; this may be extended if inventory is available.

Central Part Number	Replacement
TIP120	TIP122
TIP121	TIP122
TIP125	TIP127
TIP125 SL	TIP127 SL
TIP126	TIP127

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. Please email your requests to engineering@centrasemi.com.