

2N6420
2N6421
2N6422
2N6423

SILICON
PNP POWER TRANSISTORS



TO-66 CASE



www.centrasemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N6420 series devices are silicon PNP power transistors designed for high speed switching and high voltage amplifier applications.

MARKING: FULL PART NUMBER

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

Collector-Base Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Peak Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	2N6420	2N6421	2N6422 2N6423	UNITS
V_{CBO}	250	375	500	V
V_{CEO}	175	250	300	V
V_{EBO}	6.0	6.0	6.0	V
I_C	1.0	2.0	2.0	A
I_{CM}		5.0		A
I_B		1.0		A
P_D		35		W
T_J, T_{stg}		-65 to +200		$^\circ\text{C}$
θ_{JC}		5.0		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEV}	$V_{CE}=225\text{V}, V_{BE}=1.5\text{V}$ (2N6420)		1.0	mA
I_{CEV}	$V_{CE}=340\text{V}, V_{BE}=1.5\text{V}$ (2N6421)		1.0	mA
I_{CEV}	$V_{CE}=450\text{V}, V_{BE}=1.5\text{V}$ (2N6422)		1.0	mA
I_{CEV}	$V_{CE}=450\text{V}, V_{BE}=1.5\text{V}$ (2N6423)		2.0	mA
I_{CEV}	$V_{CE}=225\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N6420)		3.0	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N6421)		3.0	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N6422)		3.0	mA
I_{CEV}	$V_{CE}=300\text{V}, V_{BE}=1.5\text{V}, T_C=150^\circ\text{C}$ (2N6423)		5.0	mA
I_{CEO}	$V_{CE}=150\text{V}$ (2N6420)		10	mA
I_{CEO}	$V_{CE}=150\text{V}$ (2N6421, 2N6422, 2N6423)		5.0	mA
I_{EBO}	$V_{EB}=6.0\text{V}$ (2N6420)		5.0	mA
I_{EBO}	$V_{EB}=6.0\text{V}$ (2N6421, 2N6422, 2N6423)		0.5	mA
BV_{CEO}	$I_C=50\text{mA}$, (2N6420)	175		V
BV_{CEO}	$I_C=50\text{mA}$, (2N6421)	250		V
BV_{CEO}	$I_C=50\text{mA}$, (2N6422, 2N6423)	300		V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=125\text{mA}$ (2N6420 thru 2N6422)		0.75	V
$V_{CE(SAT)}$	$I_C=750\text{mA}, I_B=75\text{mA}$ (2N6423)		1.0	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$ (2N6420 thru 2N6422)		1.4	V
$V_{BE(SAT)}$	$I_C=750\text{mA}, I_B=75\text{mA}$ (2N6423)		1.8	V
h_{FE}	$V_{CE}=10\text{V}, I_C=100\text{mA}$	40		
h_{FE}	$V_{CE}=10\text{V}, I_C=500\text{mA}$ (2N6420)	40	200	

R1 (2-September 2014)

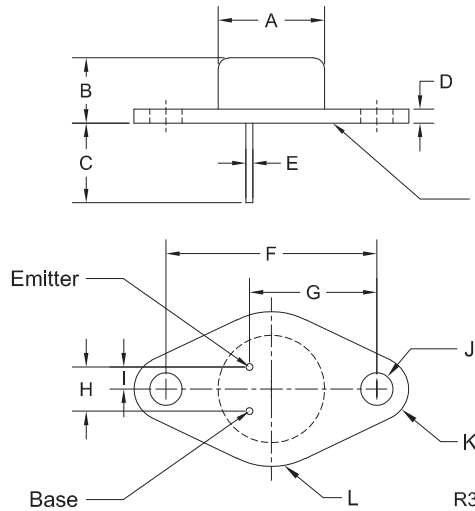
2N6420
2N6421
2N6422
2N6423
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PNP POWER TRANSISTORS



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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
h_{FE}	$V_{CE}=2.0\text{V}$, $I_C=750\text{mA}$ (2N6423)	10	100	
h_{FE}	$V_{CE}=2.0\text{V}$, $I_C=1.0\text{A}$ (2N6421, 2N6422)	8.0	80	
h_{FE}	$V_{CE}=10\text{V}$, $I_C=1.0\text{A}$ (2N6420)	10		
h_{fe}	$V_{CE}=30\text{V}$, $I_C=100\text{mA}$, $f=1.0\text{kHz}$	25	350	
f_T	$V_{CE}=10\text{V}$, $I_C=200\text{mA}$, $f=5.0\text{MHz}$ (2N6420,21,22)	10		MHz
f_T	$V_{CE}=10\text{V}$, $I_C=200\text{mA}$, $f=5.0\text{MHz}$ (2N6423)	15		MHz
C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1.0\text{MHz}$		120	pF
t_r	$V_{CC}=200\text{V}$, $I_C=1.0\text{A}$, $I_{B1}=100\text{mA}$, $R_L=200\Omega$ (2N6420, 2N6421, 2N6422)		3.0	μs
t_r	$V_{CC}=200\text{V}$, $I_C=750\text{mA}$, $I_{B1}=75\text{mA}$, $R_L=267\Omega$ (2N6423)		5.0	μs
t_s	$V_{CC}=200\text{V}$, $I_C=1.0\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$ (2N6420, 2N6421, 2N6422)		4.0	μs
t_s	$V_{CC}=200\text{V}$, $I_C=750\text{mA}$, $I_{B1}=I_{B2}=75\text{mA}$ (2N6423)		6.0	μs
t_f	$V_{CC}=200\text{V}$, $I_C=1.0\text{A}$, $I_{B1}=I_{B2}=100\text{mA}$ (2N6420, 2N6421, 2N6422)		3.0	μs
t_f	$V_{CC}=200\text{V}$, $I_C=750\text{mA}$, $I_{B1}=I_{B2}=75\text{mA}$ (2N6423)		3.0	μs
$I_{S/b}$	$V_{CE}=100\text{V}$	150		mA

TO-66 CASE - MECHANICAL OUTLINE



Seating Plane:
The seating plane must be within 0.001" concave to 0.004" convex within 0.600" diameter from the center of the device.

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.470	0.500	11.94	12.70
B	0.250	0.340	6.35	8.64
C	0.360	-	9.14	-
D	0.050	0.075	1.27	1.91
E (DIA)	0.028	0.034	0.71	0.86
F	0.956	0.964	24.28	24.48
G	0.570	0.590	14.48	14.99
H	0.190	0.210	4.83	5.33
I	0.093	0.107	2.36	2.72
J (DIA)	0.142	0.152	3.61	3.86
K (RAD)	0.141		3.58	
L (RAD)	0.345		8.76	

TO-66 (REV:R3)

MARKING:
FULL PART NUMBER

R1 (2-September 2014)

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

Corporate Headquarters & Customer Support Team

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Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
www.centrasemi.com/wwdistributors

For the latest version of Central Semiconductor's **LIMITATIONS AND DAMAGES DISCLAIMER**, which is part of Central's Standard Terms and Conditions of sale, visit: www.centrasemi.com/terms



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01244
Notification Date:	8/12/22
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. Orders can only be accepted for products with available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01244
Notification Date:	8/12/22
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Summary: The 2N6421 power transistor is discontinued and now classified as End 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.**

<u>Central Part Number</u>	<u>Suggested Replacement</u>
2N6421	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.centrasemi.com/submit-inquiry?type=ER> to submit an online inquiry.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01134
Notification Date:	8/27/19
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Please be advised that Central Semiconductor must immediately discontinue the product(s) listed in the attached PDN notice. We are unable to accept any further orders for these products unless we have available inventory on hand.

You may have purchased one or more of the products listed. Please do not hesitate to contact your local Central Semiconductor sales representative with any questions or needs you may have. Central regrets any inconvenience this may cause.

Sincerely,

Central Semiconductor Corp.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.



<http://www.centrasemi.com>

Product End of Life Notification

PDN ID:	PDN01134
Notification Date:	8/27/19
Last Buy Date:	Stock Only
Last Shipment Date	Stock Only

Summary: The 2N6422 power transistor 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 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 Management Process. 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.

<u>Central Part Number</u>	<u>Replacement</u>
2N6422	N/A, Stock Only

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.

DISCLAIMER: This End of Life (EOL) notification is in accordance with JEDEC standard JESD48 - Product Discontinuance. Central Semiconductor Corp. will make every effort to offer life-time buy (LTB) opportunities and/or offer replacement devices to existing customers for discontinued devices, however, one or both may not be possible for all devices. Please contact your local Central Semiconductor sales representative for LTB opportunities/additional information.