

2N6420
2N6421
2N6422
2N6423

**SILICON
PNP POWER TRANSISTORS**



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



TO-66 CASE

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	2N6422			UNITS
	2N6420	2N6421	2N6423	
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)

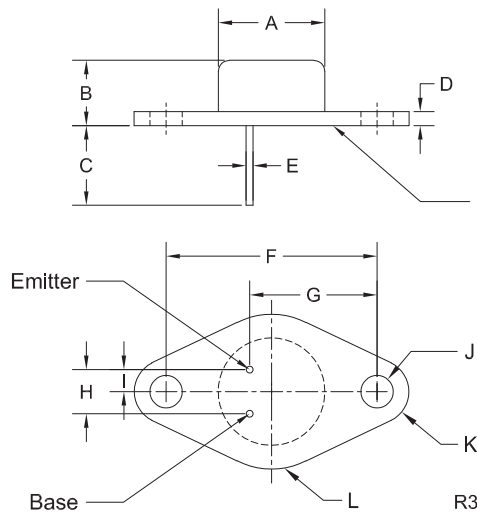
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ELECTRICAL CHARACTERISTICS - Continued: ($T_C=25^\circ\text{C}$ unless otherwise noted)

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



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)

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

- Supply management (Customer portals)
- Inventory bonding
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- Custom product packing

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

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- Customer specific screening
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- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
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