2N6420
2N6421
2N6422
2N6423

SILICON
PNP POWER TRANSISTORS

TO-66 CASE

Central Semiconductor Corp.

www.centralsemi.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°C)	**SYMBOL**	**2N6420**	**2N6421**	**2N6422 2N6423**	**UNITS**
Collector-Base Voltage	V_{CBO}	250	375	500	V
Collector-Emitter Voltage	V_{CEO}	175	250	300	V
Emitter-Base Voltage	V_{EBO}	6.0	6.0	6.0	V
Continuous Collector Current	I_C	1.0	2.0	2.0	A
Peak Collector Current	I_{CM}		5.0		A
Continuous Base Current	I_B		1.0		A
Power Dissipation	P_D		35		W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 to +200		°C
Thermal Resistance	Θ_{JC}		5.0		°C/W

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

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

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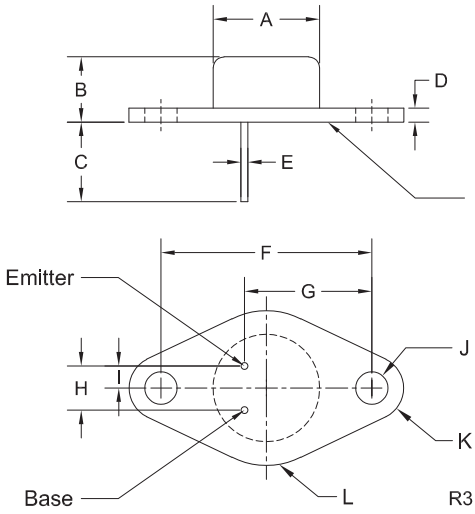
ELECTRICAL CHARACTERISTICS - Continued: (T_C=25°C unless otherwise noted)

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

DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	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

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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

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