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Manufacturers of World Class Discrete Semiconductors

2N6420
2N6421
2N6422
2N6423

PNP SILICON
POWER TRANSISTOR

JEDEC TO-66 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N6420 series types are PNP Silicon Power Transistors designed for high speed switching and high voltage amplifier applications.

MAXIMUM RATINGS ($T_C = 25°C$)

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

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

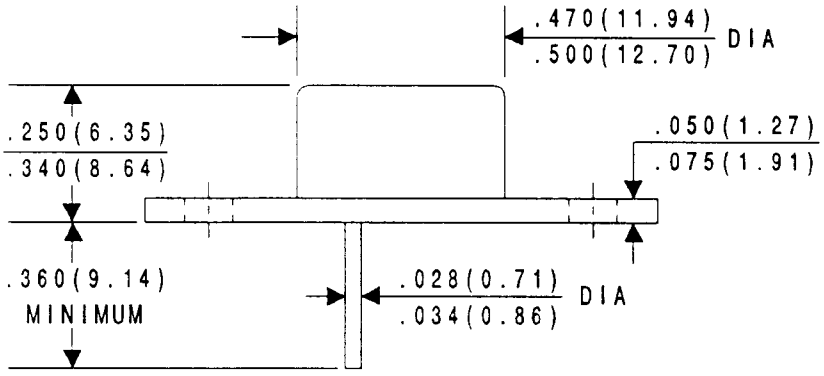
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CEV}	$V_{CE} = 225V$, $V_{BE(off)} = 1.5V$ (2N6420)		1.0	mA
I_{CEV}	$V_{CE} = 340V$, $V_{BE(off)} = 1.5V$ (2N6421)		1.0	mA
I_{CEV}	$V_{CE} = 450V$, $V_{BE(off)} = 1.5V$ (2N6422)		1.0	mA
I_{CEV}	$V_{CE} = 450V$, $V_{BE(off)} = 1.5V$ (2N6423)		2.0	mA
I_{CEV}	$V_{CE} = 225V$, $V_{BE(off)} = 1.5V$, $T_C = 150°C$ (2N6420)		3.0	mA
I_{CEV}	$V_{CE} = 300V$, $V_{BE(off)} = 1.5V$, $T_C = 150°C$ (2N6421)		3.0	mA
I_{CEV}	$V_{CE} = 300V$, $V_{BE(off)} = 1.5V$, $T_C = 150°C$ (2N6422)		3.0	mA
I_{CEV}	$V_{CE} = 300V$, $V_{BE(off)} = 1.5V$, $T_C = 150°C$ (2N6423)		5.0	mA
I_{CEO}	$V_{CE} = 150V$ (2N6420)		10	mA
I_{CEO}	$V_{CE} = 150V$ (2N6421 THRU 2N6423)		5.0	mA
I_{EBO}	$V_{EB} = 6.0V$ (2N6420)		5.0	mA
I_{EBO}	$V_{EB} = 6.0V$ (2N6421 THRU 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
$V_{CE(SAT)}$	$I_C = 750mA$, $I_B = 75mA$ (2N6423)		1.0	V
$V_{CE(SAT)}$	$I_C = 1.0A$, $I_B = 125mA$ (2N6420 THRU 2N6422)		0.75	V

(CONTINUED ON REVERSE SIDE)

ELECTRICAL CHARACTERISTICS (CONTINUED)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$V_{BE(SAT)}$	$I_C = 750mA$, $I_B = 75mA$ (2N6423)		1.8	V
$V_{BE(SAT)}$	$I_C = 1.0A$, $I_B = 100mA$ (2N6420 THRU 2N6422)		1.4	V
h_{FE}	$V_{CE} = 10V$, $I_C = 100mA$ (2N6420 THRU 2N6423)	40		
h_{FE}	$V_{CE} = 10V$, $I_C = 500mA$ (2N6420)	40	200	
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		
f_T	$V_{CE} = 10V$, $I_C = 200mA$, $f = 5.0MHz$ (2N6420 THRU 2N6422)	10		MHz
f_T	$V_{CE} = 10V$, $I_C = 200mA$, $f = 5.0MHz$ (2N6423)	15		MHz
C_{ob}	$V_{CB} = 10V$, $I_E = 0$, $f = 1.0MHz$ (2N6420 THRU 2N6423)		120	pF
h_{fe}	$V_{CE} = 30V$, $I_C = 100mA$, $f = 1.0kHz$ (2N6420 THRU 2N6423)	25	350	
t_r	$V_{CC} = 200V$, $I_C = 1.0A$, $R_L = 200\Omega$, $I_{B1} = 100mA$ (2N6420 THRU 2N6422)		3.0	μs
t_r	$V_{CC} = 200V$, $I_C = 750mA$, $R_L = 267\Omega$, $I_{B1} = 75mA$ (2N6423)		5.0	μs
t_s	$V_{CC} = 200V$, $I_C = 1.0A$, $I_{B1} = I_{B2} = 100mA$ (2N6420 THRU 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 THRU 2N6422)		3.0	μs
t_f	$V_{CC} = 200V$, $I_C = 750mA$, $I_{B1} = I_{B2} = 75mA$ (2N6423)		3.0	μs
$I_{S/b}$	$V_{CE} = 100V$ (2N6420 THRU 2N6423)	150		mA

TO-66 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).