2N3419
2N3420
2N3421

SILICON
NPN TRANSISTORS

TO-39 CASE

Central Semiconductor Corp.

www.centralsemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N3419, 2N3420, and 2N3421 are silicon NPN transistors manufactured by the epitaxial planar process, and designed for small signal general purpose and switching applications.

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C unless otherwise noted)

	SYMBOL	2N3420	2N3419 2N3421	UNITS
Collector-Base Voltage	V_{CBO}	85	125	V
Collector-Emitter Voltage	V_{CEO}	60	80	V
Emitter-Base Voltage	V_{EBO}	8.0		V
Continuous Collector Current	I_C	3.0		A
Peak Collector Current (PW≤1.0ms, D.C.≤50%)	I_{CM}	5.0		A
Continuous Base Current	I_B	1.0		A
Power Dissipation	P_D	1.0		W
Power Dissipation (T_C=25°C)	P_D	15		W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +200		°C

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

		2N3420		2N3419 2N3421		
SYMBOL	TEST CONDITIONS	MIN	MAX	MIN	MAX	UNITS
I_{CEX}	V_{CE}=80V, V_{EB}=0.5V	-	500	-	-	nA
I_{CEX}	V_{CE}=120V, V_{EB}=0.5V	-	-	-	500	nA
I_{CEX}	V_{CE}=80V, V_{EB}=0.5V, T_C=150°C	-	50	-	-	µA
I_{CEX}	V_{CE}=120V, V_{EB}=0.5V, T_C=150°C	-	-	-	50	µA
I_{EBO}	V_{EB}=6.0V	-	500	-	500	nA
I_{EBO}	V_{EB}=8.0V	-	10	-	10	µA
BV_{CEO}	I_C=50mA	60	-	80	-	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA	-	0.25	-	0.25	V
$V_{CE(SAT)}$	I_C=2.0A, I_B=200mA	-	0.50	-	0.50	V
$V_{BE(SAT)}$	I_C=1.0A, I_B=100mA	0.6	1.2	0.6	1.2	V
$V_{BE(SAT)}$	I_C=2.0A, I_B=200mA	0.7	1.4	0.7	1.4	V
f_T	V_{CE}=10V, I_C=100mA, f=20MHz	40	-	40	-	MHz
C_{ob}	V_{CB}=10V, I_E=0, f=1.0MHz	-	150	-	150	pF
t_{on}	$V_{EB(OFF)}$=3.7V, I_C=1.0A,	-	300	-	300	ns
t_{off}	I_{B1}=I_{B2}=100mA, R_L=20Ω	-	1.2	-	1.2	µs

R0 (24-March 2014)

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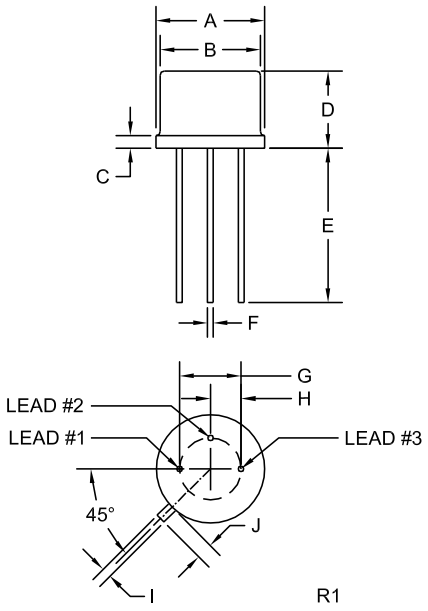
ELECTRICAL CHARACTERISTICS - Continued: (T_A=25°C)

		2N3419		2N3420 2N3421		
SYMBOL	**TEST CONDITIONS**	**MIN**	**MAX**	**MIN**	**MAX**	**UNITS**
h_{FE}	V_{CE}=2.0V, I_C=100mA	20	-	40	-	
h_{FE}	V_{CE}=2.0V, I_C=1.0A	20	60	40	160	
h_{FE}	V_{CE}=2.0V, I_C=2.0A	15	-	30	-	
h_{FE}	V_{CE}=5.0V, I_C=5.0A	10	-	15	-	

TO-39 CASE - MECHANICAL OUTLINE



DIMENSIONS				
	INCHES		MILLIMETERS	
SYMBOL	MIN	MAX	MIN	MAX
A (DIA)	0.335	0.370	8.51	9.40
B (DIA)	0.315	0.335	8.00	8.51
C	-	0.040	-	1.02
D	0.240	0.260	6.10	6.60
E	0.500	-	12.70	-
F (DIA)	0.016	0.021	0.41	0.53
G (DIA)	0.200		5.08	
H	0.100		2.54	
I	0.028	0.034	0.71	0.86
J	0.029	0.045	0.74	1.14

TO-39 (REV: R1)

LEAD CODE:
1) Emitter
2) Base
3) Collector

MARKING: FULL PART NUMBER