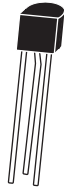


2N5820 2N5822 NPN
2N5821 2N5823 PNP

COMPLEMENTARY
SILICON TRANSISTORS



TO-92-18R CASE

CentralTM
Semiconductor Corp.

DESCRIPTION:

The CENTRAL SEMICONDUCTOR 2N5820 series types are epoxy molded complementary silicon small signal transistors manufactured by the epitaxial planar process designed for general purpose amplifier applications where a high collector current rating is required.

MARKING CODE: FULL PART NUMBER

MAXIMUM RATINGS: ($T_A=25^\circ\text{C}$ unless otherwise noted)

	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	70	V
Collector-Emitter Voltage	V_{CES}	70	V
Collector-Emitter Voltage	V_{CEO}	60	V
Emitter-Base Voltage	V_{EBO}	5.0	V
Collector Current	I_C	750	mA
Peak Collector Current	I_{CM}	1.0	A
Power Dissipation	P_D	625	mW
Power Dissipation ($T_C=25^\circ\text{C}$)	P_D	1.5	W
Operating and Storage Junction Temperature	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
Thermal Resistance	θ_{JA}	200	$^\circ\text{C/W}$
Thermal Resistance	θ_{JC}	83.3	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N5820		2N5822		UNITS
		2N5821	MAX	2N5823	MAX	
I_{CBO}	$V_{CB}=25\text{V}$		100		100	nA
I_{CBO}	$V_{CB}=25\text{V}, T_A=100^\circ\text{C}$		15		15	μA
I_{EBO}	$V_{EB}=5.0\text{V}$		10		10	μA
BV_{CES}	$I_C=10\mu\text{A}$	70		70		V
BV_{CEO}	$I_C=10\text{mA}$	60		60		V
BV_{EBO}	$I_E=10\mu\text{A}$	5.0		5.0		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.75		0.75	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2		1.2	V
$V_{BE(ON)}$	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	0.60	1.1	0.60	1.1	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=2.0\text{mA}$	60	120	100	250	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=500\text{mA}$	20		25		

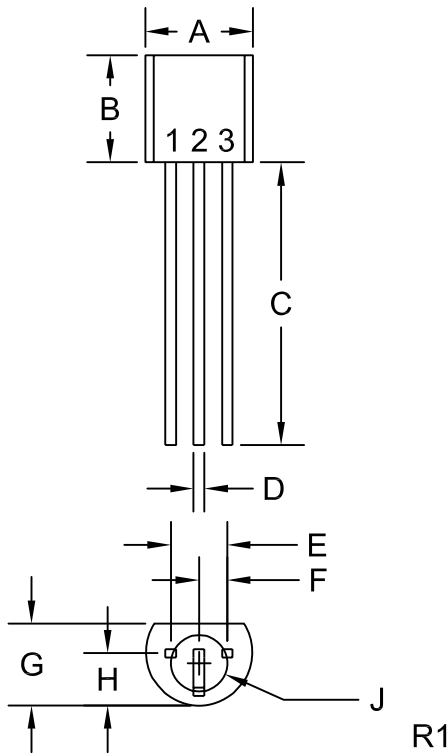
R1 (21-October 2005)

**COMPLEMENTARY
SILICON TRANSISTORS**

ELECTRICAL CHARACTERISTICS: (Continued)

SYMBOL	TEST CONDITIONS	2N5820 <u>2N5821</u>		2N5822 <u>2N5823</u>		UNITS
		MIN	MAX	MIN	MAX	
f_T	$V_{CE}=2.0V, I_C=50mA, f=20MHz$	100		120		MHz
C_{ob}	$V_{CB}=10V, I_C=0, f=1.0MHz$		15		15	pF
C_{ib}	$V_{EB}=0.5V, I_E=0, f=1.0MHz$		55		55	pF

TO-92-18R CASE - MECHANICAL OUTLINE



SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A (DIA)	0.175	0.205	4.45	5.21
B	0.170	0.210	4.32	5.33
C	0.500	-	12.70	-
D	0.016	0.022	0.41	0.56
E	0.100		2.54	
F	0.050		1.27	
G	0.125	0.165	3.18	4.19
H	0.080	0.105	2.03	2.67
J (DIA)	0.100		2.54	
K	0.015		0.38	

TO-92-18R (REV: R1)

LEAD CODE:

- 1) COLLECTOR
- 2) BASE
- 3) EMITTER

MARKING CODE:

FULL PART NUMBER