

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

2N5820 2N5822 NPN

2N5821 2N5823 PNP

COMPLEMENTARY SILICON TRANSISTORS

TO-92-18R CASE (CBE)

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.

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

	SYMBOL		UNIT
Collector-Base Voltage	V _{CB0}	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
Collector Current (PEAK)	I _{CM}	1000	mA
Power Dissipation	P _D	625	mW
Power Dissipation (T _C =25°C)	P _D	1500	mW
Operating and Storage			
Junction Temperature	T _J , T _{STG}	-65 to +150	°C
Thermal Resistance	θ _{JA}	200	°C/mW
Thermal Resistance	θ _{JC}	83.3	°C/mW

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

SYMBOL	TEST CONDITIONS	2N5820		2N5822		UNIT
		2N5821	MIN	MAX	MIN	
I _{CB0}	V _{CB} =25V			100	100	nA
I _{CB0}	V _{CB} =25V, T _A =100°C			15	15	μA
I _{EBO}	V _{EB} =5.0V			10	10	μA
BV _{CES}	I _C =10μA	70		70		V
BV _{CEO}	I _C =10mA	60		60		V
BV _{EBO}	I _E =10μA	5.0		5.0		V
V _{CE(SAT)}	I _C =500mA, I _B =50mA		0.75		0.75	V
V _{BE(SAT)}	I _C =500mA, I _B =50mA		1.2		1.2	V
V _{BE(ON)}	V _{CB} =2.0V, I _C =500mA	0.60	1.1	0.60	1.1	V
h _{FE}	V _{CE} =2.0V, I _C =2.0mA	60	120	100	200	
h _{FE}	V _{CE} =2.0V, I _C =500mA	20	-	25	-	
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