

Central
Semiconductor Corp.

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145 Adams Avenue
Hauppauge, New York 11788



2N4231A	2N4232A	2N4233A	NPN
2N6312	2N6313	2N6314	PNP

COMPLEMENTARY SILICON
POWER TRANSISTORS

JEDEC TO-66 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N4231A, 2N6312 series types are complementary silicon power transistors manufactured by the epitaxial base process mounted in a hermetically sealed metal case, designed for general purpose amplifier and switching applications.

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

	SYMBOL	2N4231A 2N6312	2N4232A 2N6313	2N4233A 2N6314	UNIT
Collector-Base Voltage	V_{CB0}	40	60	80	V
Collector-Emitter Voltage	V_{CE0}	40	60	80	V
Emitter-Base Voltage	V_{EB0}		5.0		V
Collector Current	I_C		5.0		A
Collector Current-PEAK	I_{CM}		10		A
Base Current	I_B		2.0		A
Power Dissipation	P_D		75		W
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 TO +200			$^\circ\text{C}$
Thermal Resistance	θ_{JC}		2.32		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	2N4231A 2N6312		2N4232A 2N6313		2N4233A 2N6314		UNIT
		MIN	MAX	MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=\text{Rated } V_{CB0}$		0.05		0.05		0.05	mA
I_{CE0}	$V_{CE}=30\text{V}$		1.0		-		-	mA
I_{CE0}	$V_{CE}=50\text{V}$		-		1.0		-	mA
I_{CE0}	$V_{CE}=70\text{V}$		-		-		1.0	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V}$		0.1		0.1		0.1	mA
I_{CEV}	$V_{CE}=\text{Rated } V_{CE0}, V_{BE}(\text{OFF})=1.5\text{V}, T_C=150^\circ\text{C}$		1.0		1.0		1.0	mA
I_{EB0}	$V_{EB}=5.0\text{V}$		0.5		0.5		0.5	mA
BV_{CE0}	$I_C=100\text{mA}$	40		60		80		V
$V_{CE}(\text{SAT})$	$I_C=1.5\text{A}, I_B=0.15\text{A}$		0.7		0.7		0.7	V
$V_{CE}(\text{SAT})$	$I_C=3.0\text{A}, I_B=0.3\text{A}$		2.0		2.0		2.0	V
$V_{CE}(\text{SAT})$	$I_C=5.0\text{A}, I_B=1.25\text{A}$		4.0		4.0		4.0	V
$V_{BE}(\text{ON})$	$V_{CE}=2.0\text{V}, I_C=1.5\text{A}$		1.4		1.4		1.4	V
h_{FE}	$V_{CE}=2.0\text{V}, I_C=0.5\text{A}$	40		40		40		
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.5\text{A}$	25	100	25	100	25	100	
h_{FE}	$V_{CE}=2.0\text{V}, I_C=3.0\text{A}$	10		10		10		
h_{FE}	$V_{CE}=4.0\text{V}, I_C=5.0\text{A}$	4.0		4.0		4.0		
h_{fe}	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{kHz}$	20		20		20		
f_T	$V_{CE}=10\text{V}, I_C=0.5\text{A}, f=1.0\text{MHz}$	4.0		4.0		4.0		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0\text{V}, f=0.1\text{MHz}$		300		300		300	pF