

# Central<sup>TM</sup> Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

CENU05 CENU06 CENU07 NPN  
CENU55 CENU56 CENU57 PNP

SILICON COMPLEMENTARY  
POWER TRANSISTORS

JEDEC TO-202 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR CENU05, CENU55 Series types are complementary Silicon Power Transistors designed for general purpose audio amplifier applications. These devices are electrical equivalents to Motorola's MPSU05, MPSU06, MPSU07 and MPSU55, MPSU56, MPSU57.

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

	SYMBOL	CENU05 CENU55	CENU06 CENU56	CENU07 CENU57	UNIT
Collector-Emitter Voltage	$V_{CE0}$	60	80	100	V
Collector-Base Voltage	$V_{CB0}$	60	80	100	V
Emitter-Base Voltage	$V_{EB0}$	4.0	4.0	4.0	V
Collector Current	$I_C$	2.0	2.0	2.0	A
Power Dissipation ( $T_A=25^{\circ}\text{C}$ )	$P_D$	1.75	1.75	1.75	W
Power Dissipation	$P_D$	10	10	10	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$	-65 TO +150			$^{\circ}\text{C}$
Thermal Resistance	$\theta_{JA}$	71.4	71.4	71.4	$^{\circ}\text{C/W}$
Thermal Resistance	$\theta_{JC}$	12.5	12.5	12.5	$^{\circ}\text{C/W}$

## ELECTRICAL CHARACTERISTICS ( $T_C=25^{\circ}\text{C}$ )

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
$BV_{CE0}$	$I_C=1.0\text{mA}$ (CENU05, CENU55)	60		V
$BV_{CE0}$	$I_C=1.0\text{mA}$ (CENU06, CENU56)	80		V
$BV_{CE0}$	$I_C=1.0\text{mA}$ (CENU07, CENU57)	100		V
$I_{CB0}$	$V_{CB}=\text{RATED } V_{CB0}$		0.1	$\mu\text{A}$
$I_{EB0}$	$V_{EB}=4.0\text{V}$		100	$\mu\text{A}$
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=50\text{mA}$	80		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=250\text{mA}$	50		
$h_{FE}$	$V_{CE}=1.0\text{V}, I_C=500\text{mA}$	20		
$V_{CE(\text{SAT})}$	$I_C=250\text{mA}, I_B=10\text{mA}$		0.5	V
$V_{CE(\text{SAT})}$	$I_C=250\text{mA}, I_B=25\text{mA}$		0.35	V
$V_{BE(\text{ON})}$	$V_{CE}=1.0\text{V}, I_C=250\text{mA}$		1.2	V
$f_T$	$V_{CE}=5.0\text{V}, I_C=200\text{mA}, f=100\text{MHz}$	50		MHz
$C_{ob}$	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		30	pF

