

CEN-U05 CEN-U06 CEN-U07 NPN
 CEN-U55 CEN-U56 CEN-U57 PNP

**COMPLEMENTARY SILICON
 POWER TRANSISTORS**



TO-202 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEN-U05/U55 series types are complementary silicon power transistors designed for general purpose audio amplifier applications. These devices are electrically equivalent to National Semiconductor's NSDU05, NSDU06, NSDU07, NSDU55, NSDU56, and NSDU57.

MARKING: FULL PART NUMBER

APPLICATIONS:

- Designed for general purpose high voltage amplifiers and drivers

FEATURES:

- High Collector-Emitter breakdown voltage
- High 10W power dissipation

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

Collector-Base Voltage
 Collector-Emitter Voltage
 Emitter-Base Voltage
 Continuous Collector Current
 Power Dissipation
 Power Dissipation ($T_A=25^\circ\text{C}$)
 Operating and Storage Junction Temperature
 Thermal Resistance
 Thermal Resistance

SYMBOL	CEN-U05	CEN-U06	CEN-U07	UNITS
	CEN-U55	CEN-U56	CEN-U57	
V_{CB0}	60	80	100	V
V_{CEO}	60	80	100	V
V_{EBO}		4.0		V
I_C		2.0		A
P_D		10		W
P_D		1.75		W
T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
θ_{JA}		71.4		$^\circ\text{C/W}$
θ_{JC}		12.5		$^\circ\text{C/W}$

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

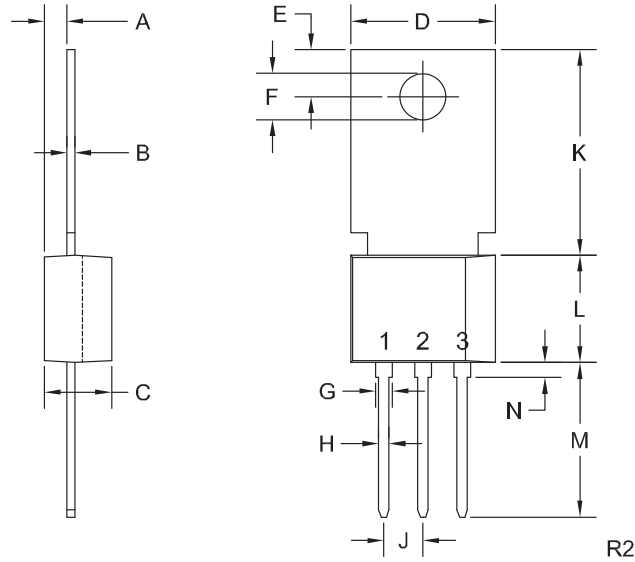
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CB0}$		0.1	μA
I_{EBO}	$V_{EB}=4.0\text{V}$		100	μA
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U05, CEN-U55)	60		V
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U06, CEN-U56)	80		V
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U07, CEN-U57)	100		V
$V_{CE(SAT)}$	$I_C=250\text{mA}, I_B=10\text{mA}$		0.5	V
$V_{CE(SAT)}$	$I_C=250\text{mA}, I_B=25\text{mA}$		0.35	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=250\text{mA}$		1.2	V
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		
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

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TO-202 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Emitter
 - 2) Base
 - 3) Collector
- Tab is common to pin 3

MARKING:

FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.055	0.071	1.40	1.80
B	0.016	0.024	0.40	0.60
C	0.173	0.181	4.40	4.60
D	0.374	0.413	9.50	10.5
E	0.118	0.154	3.00	3.90
F (DIA)	0.124	0.150	3.15	3.80
G	0.035	0.055	0.90	1.40
H	0.023	0.031	0.59	0.80
J	0.094	0.106	2.39	2.69
K	0.459	0.559	11.66	14.21
L	0.280	0.346	7.12	8.80
M	0.406	0.531	10.3	13.5
N	0.024	0.059	0.60	1.50

TO-202 (REV: R2)

R2 (20-January 2012)



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2. If requesting Lead (Pb) Free plated devices, add the suffix "PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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