

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

**COMPLEMENTARY SILICON
POWER TRANSISTORS**



TO-202 CASE



www.centra-semi.com

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

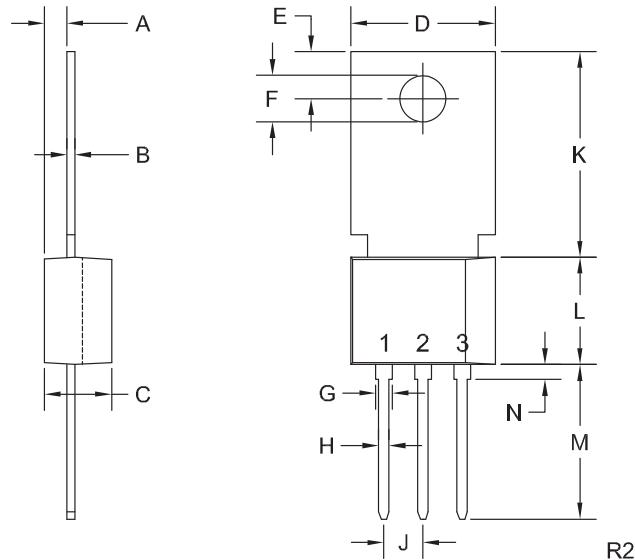
R2 (20-January 2012)

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COMPLEMENTARY SILICON
POWER TRANSISTORS



TO-202 CASE - MECHANICAL OUTLINE



LEAD CODE:

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

MARKING:

FULL PART NUMBER

DIMENSIONS				
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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OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
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- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix "TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
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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