

CEN-U05N CEN-U06N CEN-U07N NPN
CEN-U55N CEN-U56N CEN-U57N PNP

**COMPLEMENTARY
SILICON POWER TRANSISTORS**



TO-202-2 CASE



www.centralemi.com

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEN-U05N/U55N series devices are complementary silicon power transistors designed for general purpose audio amplifier applications.

MARKING: FULL PART NUMBER

APPLICATIONS:

- Designed for general purpose high voltage amplifiers and drivers

FEATURES:

- High Collector-Emitter breakdown voltage

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-U05N	CEN-U06N	CEN-U07N	UNITS
	CEN-U55N	CEN-U56N	CEN-U57N	
V_{CBO}	60	80	100	V
V_{CEO}	60	80	100	V
V_{EBO}		4.0		V
I_C		2.0		A
P_D		8.33		W
P_D		1.25		W
T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
θ_{JA}		100		$^\circ\text{C/W}$
θ_{JC}		15		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=\text{Rated } V_{CBO}$		0.1	μA
I_{EBO}	$V_{EB}=4.0\text{V}$		100	μA
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U05N, CEN-U55N)	60		V
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U06N, CEN-U56N)	80		V
BV_{CEO}	$I_C=1.0\text{mA}$ (CEN-U07N, CEN-U57N)	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

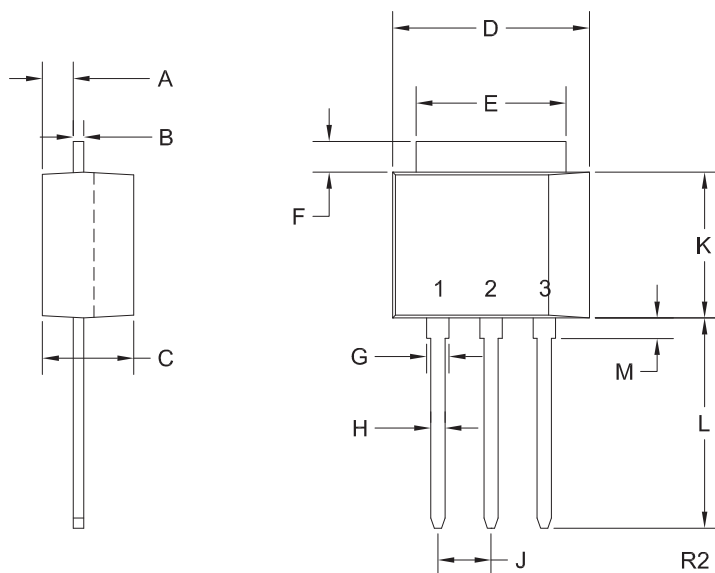
R0 (23-June 2014)

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TO-202-2 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	0.236	0.355	6.00	9.00
F	-	0.071	-	1.80
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	0.280	0.346	7.12	8.80
L	0.406	0.531	10.3	13.5
M	0.024	0.059	0.60	1.50

TO-202-2 (REV: R2)

R0 (23-June 2014)

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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
- SPICE models
- 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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