



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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CEN-U45
NPN SILICON
DARLINGTON TRANSISTOR



www.centrasemi.com



TO-202 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR CEN-U45 is a NPN silicon Darlington transistor designed for general purpose amplifier and driver applications where high gain and high power dissipation is required.

MARKING: FULL PART NUMBER

APPLICATIONS:

- Designed for general purpose amplifiers and drivers

FEATURES:

- High Collector Current (2.0A)
- High DC Current Gain (25K MIN)

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

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

SYMBOL		UNITS
V_{CB0}	50	V
V_{CEO}	40	V
V_{CES}	40	V
V_{EBO}	12	V
I_C	2.0	A
P_D	2.0	W
P_D	10	W
T_J, T_{stg}	-65 to +150	$^\circ\text{C}$
θ_{JA}	62.5	$^\circ\text{C/W}$
θ_{JC}	12.5	$^\circ\text{C/W}$

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

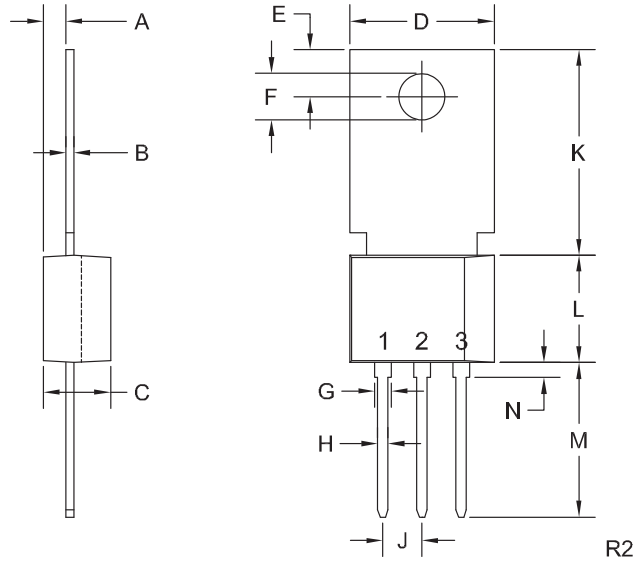
SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CBO}	$V_{CB}=30\text{V}$		100	nA
I_{EBO}	$V_{EB}=10\text{V}$		100	nA
BV_{CBO}	$I_C=100\mu\text{A}$	50		V
BV_{CES}	$I_C=100\mu\text{A}$	40		V
BV_{EBO}	$I_E=10\mu\text{A}$	12		V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=2.0\text{mA}$		1.5	V
$V_{CE(SAT)}$	$I_C=200\text{mA}, I_B=2.0\text{mA}$		1.0	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=2.0\text{mA}$		2.0	V
$V_{BE(ON)}$	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$		2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=200\text{mA}$	25K	150K	
h_{FE}	$V_{CE}=5.0\text{V}, I_C=500\text{mA}$	15K		
h_{FE}	$V_{CE}=5.0\text{V}, I_C=1.0\text{A}$	4.0K		
f_T	$V_{CE}=5.0\text{V}, I_C=200\text{mA}, f=100\text{MHz}$	100		MHz
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$		8.0	pF

R2 (23-January 2012)

CEN-U45
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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 (23-January 2012)

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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