CEN-U45

NPN SILICON DARLINGTON TRANSISTOR



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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°C)	SYMBOL		UNITS
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	40	V
Collector-Emitter Voltage	V _{CES}	40	V
Emitter-Base Voltage	V_{EBO}	12	V
Continuous Collector Current	IC	2.0	Α
Power Dissipation	P_{D}	2.0	W
Power Dissipation (T _C =25°C)	P_{D}	10	W
Operating and Storage Junction Temperature	T _J , T _{stg}	-65 to +150	°C
Thermal Resistance	$\Theta_{\sf JA}$	62.5	°C/W
Thermal Resistance	Θ JC	12.5	°C/W

ELECTRICAL CHARACTERISTICS:	(T _A =25°C unless otherwise noted)
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SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
^I CBO	V _{CB} =30V		100	nA
I _{EBO}	V _{EB} =10V		100	nA
BV _{CBO}	I _C =100μA	50		V
BV _{CES}	I _C =100μA	40		V
BV _{EBO}	I _E =10μA	12		V
V _{CE(SAT)}	I _C =1.0A, I _B =2.0mA		1.5	V
V _{CE} (SAT)	I _C =200mA, I _B =2.0mA		1.0	V
V _{BE} (SAT)	I _C =1.0A, I _B =2.0mA		2.0	V
V _{BE(ON)}	V_{CE} =5.0V, I_{C} =1.0A		2.0	V
h _{FE} ` ′	V _{CE} =5.0V, I _C =200mA	25K	150K	
h _{FE}	V _{CE} =5.0V, I _C =500mA	15K		
h _{FE}	V_{CE} =5.0V, I_{C} =1.0A	4.0K		
f _T	V_{CE} =5.0V, I_{C} =200mA, f=100MHz	100		MHz
C _{ob}	V_{CB} =10V, I_E =0, f=1.0MHz		8.0	pF

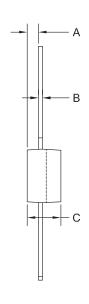
R2 (23-January 2012)

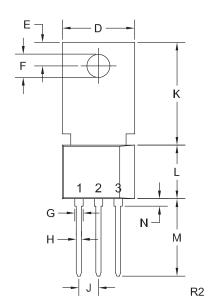
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TO-202 CASE - MECHANICAL OUTLINE





LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector

Tab is common to pin 3

MARKING:

FULL PART NUMBER

DIMENSIONS						
	INCHES		MILLIMETERS			
SYMBOL	MIN	MAX	MIN	MAX		
Α	0.055	0.071	1.40	1.80		
В	0.016	0.024	0.40	0.60		
С	0.173	0.181	4.40	4.60		
D	0.374	0.413	9.50	10.5		
Е	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		
Н	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

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