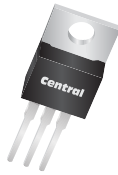


D44E1
D44E2
D44E3

SILICON
NPN DARLINGTON
POWER TRANSISTORS



www.centrasemi.com



TO-220 CASE

DESCRIPTION:

The CENTRAL SEMICONDUCTOR D44E series devices are silicon NPN Darlington power transistors, manufactured by the epitaxial base process, with 2 integrated resistors and 1 diode for stability and protection. These devices are designed for switching and output applications where high gain is desired.

MARKING: FULL PART NUMBER

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

Collector-Emitter Voltage
Collector-Emitter Voltage
Emitter-Base Voltage
Continuous Collector Current
Continuous Base Current
Power Dissipation
Operating and Storage Junction Temperature
Thermal Resistance

SYMBOL	D44E1	D44E2	D44E3	UNITS
V_{CEO}	40	60	80	V
V_{CES}	40	60	80	V
V_{EBO}		7.0		V
I_C		10		A
I_B		1.0		A
P_D		80		W
T_J, T_{stg}		-65 to +150		$^\circ\text{C}$
θ_{JC}		1.56		$^\circ\text{C/W}$

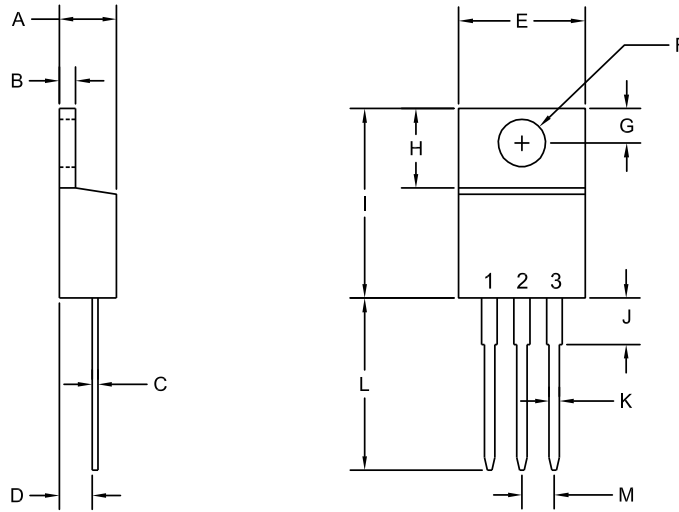
ELECTRICAL CHARACTERISTICS: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CES}	$V_{CE}=\text{Rated } V_{CES}$			500	μA
I_{EBO}	$V_{EB}=7.0\text{V}$			5.0	mA
BV_{CEO}	$I_C=100\text{mA}$ (D44E1)	40			V
BV_{CEO}	$I_C=100\text{mA}$ (D44E2)	60			V
BV_{CEO}	$I_C=100\text{mA}$ (D44E3)	80			V
$V_{CE(SAT)}$	$I_C=5.0\text{A}, I_B=10\text{mA}$			1.5	V
$V_{CE(SAT)}$	$I_C=10\text{A}, I_B=20\text{mA}$			3.0	V
$V_{BE(SAT)}$	$I_C=5.0\text{A}, I_B=10\text{mA}$			2.5	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=5.0\text{A}$	1000			
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			200	pF
t_{on}	$I_C=10\text{A}, I_{B1}=20\text{mA}$		1.0		μs
t_{off}	$I_C=10\text{A}, I_{B1}=I_{B2}=20\text{mA}$		2.5		μs

D44E1
D44E2
D44E3
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TO-220 CASE - MECHANICAL OUTLINE



R2

LEAD CODE:

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

MARKING:
FULL PART NUMBER

SYMBOL	DIMENSIONS			
	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.170	0.190	4.31	4.82
B	0.045	0.055	1.15	1.39
C	0.013	0.026	0.33	0.65
D	0.083	0.107	2.10	2.72
E	0.394	0.417	10.01	10.60
F (DIA)	0.140	0.157	3.55	4.00
G	0.100	0.118	2.54	3.00
H	0.230	0.270	5.85	6.85
I	0.560	0.625	14.23	15.87
J	-	0.250	-	6.35
K	0.025	0.038	0.64	0.96
L	0.500	0.579	12.70	14.70
M	0.090	0.110	2.29	2.79

TO-220 (REV: R2)

R1 (4-March 2014)

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).

CONTACT US

Corporate Headquarters & Customer Support Team

Central Semiconductor Corp.
145 Adams Avenue
Hauppauge, NY 11788 USA
Main Tel: (631) 435-1110
Main Fax: (631) 435-1824
Support Team Fax: (631) 435-3388
www.centrasemi.com

Worldwide Field Representatives:
www.centrasemi.com/wwreps

Worldwide Distributors:
www.centrasemi.com/wwdistributors

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