D44E1 D44E2 D44E3 SILICON

SILICON NPN DARLINGTON POWER TRANSISTORS

TO-220 CASE





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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°C) Collector-Emitter Voltage	SYMBOL VCEO	D44E1 40	D44E2 60	D44E3 80	UNITS V
Collector-Emitter Voltage	V_{CES}	40	60	80	V
Emitter-Base Voltage	V_{EBO}		7.0		V
Continuous Collector Current	I_{C}		10		Α
Continuous Base Current	Ι _Β		1.0		Α
Power Dissipation	P_{D}		80		W
Operating and Storage Junction Temperature	T _J , T _{stg}		-65 to +150		°C
Thermal Resistance	ΘIC		1.56		°C/W

ELECTRICAL	CHARACTERISTICS: (T _C =2	25°C unless otherwise no	oted)		
SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
ICES	V _{CE} =Rated V _{CES}			500	μΑ
I _{EBO}	V _{EB} =7.0V			5.0	mA
BV CEO	I _C =100mA (D44E1)	40			V
BVCEO	I _C =100mA (D44E2)	60			V
BV CEO	I _C =100mA (D44E3)	80			V
V _{CE(SAT)}	I _C =5.0A, I _B =10mA			1.5	V
VCE(SAT)	I _C =10A, I _B =20mA			3.0	V
V _{BE(SAT)}	I _C =5.0A, I _B =10mA			2.5	V
h _{FE}	V_{CE} =5.0V, I_{C} =5.0A	1000			
C _{ob}	V_{CB} =10V, I_E =0, f=1.0MHz			200	pF
^t on	I _C =10A, I _{B1} =20mA		1.0		μs
toff	I_C =10A, I_{B1} = I_{B2} =20mA		2.5		μs

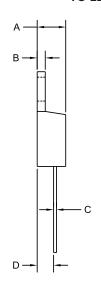
D44E2 D44E3 SILICON NPN DARLINGTON

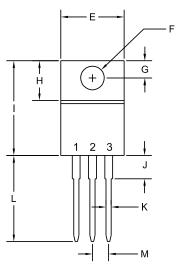
POWER TRANSISTORS

D44E1



TO-220 CASE - MECHANICAL OUTLINE





R2

LEAD CODE:

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

MARKING:

FULL PART NUMBER

DIMENSIONS						
	INCHES		MILLIMETERS			
SYMBOL	MIN	MAX	MIN	MAX		
Α	0.170	0.190	4.31	4.82		
В	0.045	0.055	1.15	1.39		
С	0.013	0.026	0.33	0.65		
D	0.083	0.107	2.10	2.72		
Е	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		
Н	0.230	0.270	5.85	6.85		
	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		
М	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 guick 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

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