

D44C SERIES
SILICON
NPN POWER TRANSISTORS

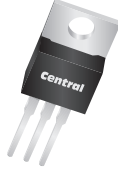


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DESCRIPTION:

The CENTRAL SEMICONDUCTOR D44C series devices are silicon NPN power transistors designed for general purpose amplifier and switching applications.

MARKING: FULL PART NUMBER



TO-220 CASE

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

Collector-Emitter Voltage	V_{CES}	40	55	70	90	V
Collector-Emitter Voltage	V_{CEO}	30	45	60	80	V
Emitter-Base Voltage	V_{EBO}			5.0		V
Continuous Collector Current	I_C			4.0		A
Peak Collector Current	I_{CM}			6.0		A
Power Dissipation	P_D			30		W
Operating and Storage Junction Temperature	T_J, T_{stg}			-65 to +150		$^\circ\text{C}$
Thermal Resistance	θ_{JC}			4.2		$^\circ\text{C/W}$
Thermal Resistance	θ_{JA}			75		$^\circ\text{C/W}$

SYMBOL	D44C1	D44C4	D44C7	D44C10	UNITS
	D44C2	D44C5	D44C8	D44C11	
	D44C3	D44C6	D44C9	D44C12	
V_{CES}	40	55	70	90	V
V_{CEO}	30	45	60	80	V
V_{EBO}			5.0		V
I_C			4.0		A
I_{CM}			6.0		A
P_D			30		W
T_J, T_{stg}			-65 to +150		$^\circ\text{C}$
θ_{JC}			4.2		$^\circ\text{C/W}$
θ_{JA}			75		$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CES}	$V_{CE}=\text{Rated } V_{CES}$			10	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	μA
BV_{CEO}	$I_C=100\text{mA}$ (D44C1, 2, 3)	30			V
BV_{CEO}	$I_C=100\text{mA}$ (D44C4, 5, 6)	45			V
BV_{CEO}	$I_C=100\text{mA}$ (D44C7, 8, 9)	60			V
BV_{CEO}	$I_C=100\text{mA}$ (D44C10, 11, 12)	80			V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=50\text{mA}$ (D44C2, 3, 5, 6, 8, 9, 11, 12)			0.5	V
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$ (D44C1, 4, 7, 10)			0.5	V
$V_{BE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			1.3	V
C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			100	pF
f_T	$V_{CE}=4.0\text{V}, I_C=20\text{mA}$		50		MHz
t_d+t_r	$I_C=1.0\text{A}, I_{B1}=100\text{mA}$		100		ns
t_s	$I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$		500		ns
t_f	$I_C=1.0\text{A}, I_{B1}=I_{B2}=100\text{mA}$		75		ns

R1 (4-March 2014)

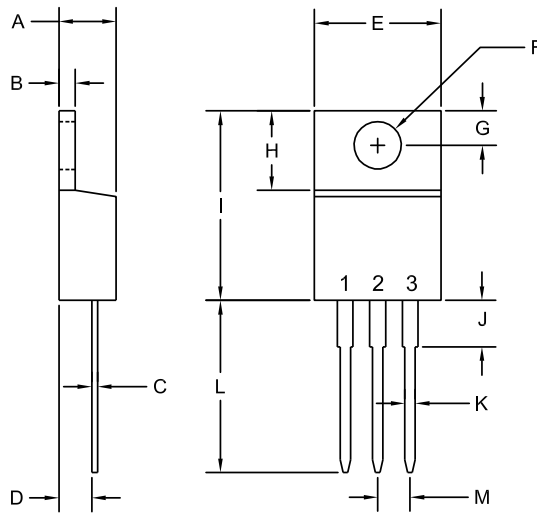
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ELECTRICAL CHARACTERISTICS - Continued: ($T_C=25^\circ\text{C}$ unless otherwise noted)

SYMBOL	TEST CONDITIONS	D44C3		D44C2		D44C1	
		MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=1.0\text{V}, I_C=0.2\text{A}$	40	120	100	220	25	-
h_{FE}	$V_{CE}=1.0\text{V}, I_C=2.0\text{A}$	20	-	20	-	-	-
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$	-	-	-	-	10	-

TO-220 CASE - MECHANICAL OUTLINE



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)

R2

LEAD CODE:

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

MARKING:

FULL PART NUMBER

R1 (4-March 2014)