

D40D1 D40D5 D40D11
D40D2 D40D7 D40D13
D40D3 D40D8 D40D14
D40D4 D40D10

**NPN SILICON
POWER TRANSISTOR**



TO-202 CASE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR D40D series types are NPN silicon power transistors designed for amplifier and switching applications. The PNP complementary types are the D41D series.

MARKING: FULL PART NUMBER

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

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

SYMBOL	D40D1	D40D2	D40D4	D40D7	D40D10	D40D11	UNITS
	D40D3	D40D5	D40D8	D40D14	D40D13	D40D14	
V_{CES}	45	60	75	90			V
V_{CEO}	30	45	60	75			V
V_{EBO}			5.0				V
I_C			1.0				A
I_{CM}			1.5				A
P_D			6.25				W
T_J, T_{stg}			-65 to +150				$^{\circ}\text{C}$
θ_{JC}			20				$^{\circ}\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
I_{CES}	$V_{CE}=\text{Rated } V_{CES}$		100	nA
I_{EBO}	$V_{EB}=5.0\text{V}$		100	nA
BV_{CEO}	$I_C=10\text{mA}$ (D40D1, 2, 3)	30		V
BV_{CEO}	$I_C=10\text{mA}$ (D40D4, 5)	45		V
BV_{CEO}	$I_C=10\text{mA}$ (D40D7, 8)	60		V
BV_{CEO}	$I_C=10\text{mA}$ (D40D10, 11, 13, 14)	75		V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (D40D1, 2, 4, 5)		0.5	V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$ (D40D7, 8, 10, 11, 13, 14)		1.0	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.5	V

		D40D1		D40D4		D40D7		D40D10		D40D5		D40D8		D40D11		D40D13		D40D14	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
h_{FE}	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	50	150	120	360	290	-	120	360										
h_{FE}	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$ (Except D40D13, 14)	10	-	20	-	10	-	10	-										

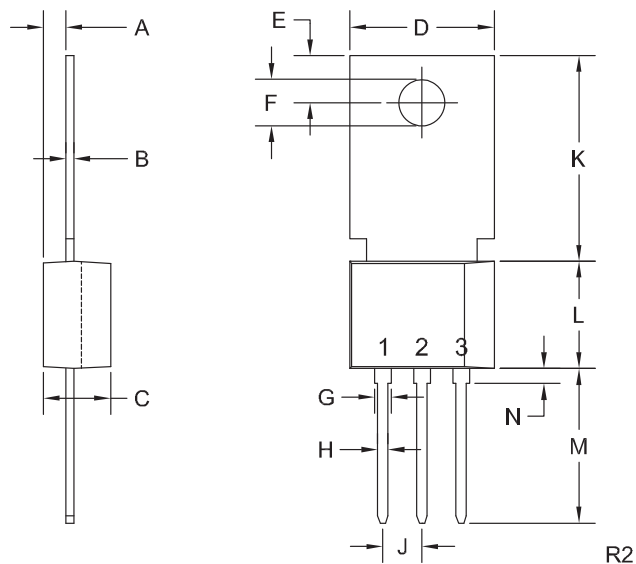
R1 (23-January 2012)

D40D1 D40D5 D40D11
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**NPN SILICON
POWER TRANSISTOR**



TO-202 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Emitter
- 2) Base
- 3) Collector
- Tab is common to pin 3

MARKING:

FULL PART NUMBER

DIMENSIONS				
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)

R1 (23-January 2012)

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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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