

D40D1 D40D5 D40D11  
D40D2 D40D7 D40D13  
D40D3 D40D8 D40D14  
D40D4 D40D10

**NPN SILICON  
POWER TRANSISTOR**



www.centrasemi.com

**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**



**TO-202 CASE**

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

SYMBOL	D40D1		D40D4		D40D7		D40D10		D40D11		UNITS
	D40D2	D40D3	D40D4	D40D5	D40D7	D40D8	D40D10	D40D11	D40D13	D40D14	
Collector-Emitter Voltage	$V_{CES}$	45	60	75	90						V
Collector-Emitter Voltage	$V_{CEO}$	30	45	60	75						V
Emitter-Base Voltage	$V_{EBO}$			5.0							V
Continuous Collector Current	$I_C$			1.0							A
Peak Collector Current	$I_{CM}$			1.5							A
Power Dissipation	$P_D$			6.25							W
Operating and Storage Junction Temperature	$T_J, T_{stg}$			-65 to +150							$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$			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

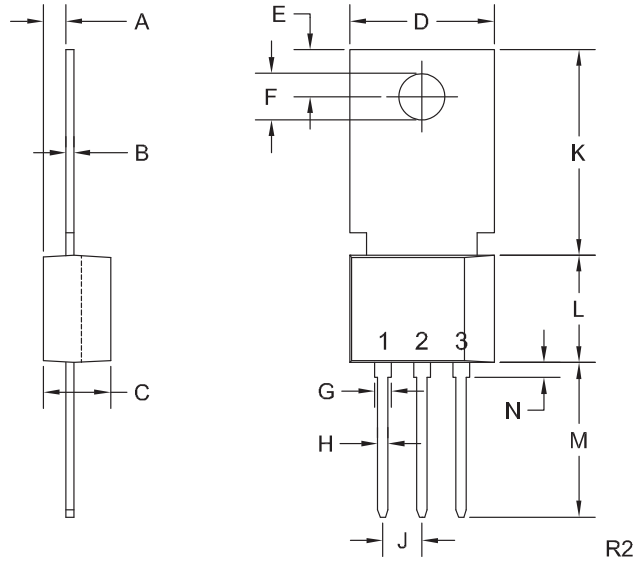
	TEST CONDITIONS	D40D1		D40D4		D40D7		D40D10		D40D5		D40D8		D40D11		D40D13		D40D14	
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=100\text{mA}$	50	150	120	360	290	-	120	360										
$h_{FE}$	$V_{CE}=2.0\text{V}, I_C=1.0\text{A}$ (Except D40D13,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

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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**

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)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### 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

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> 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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### 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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### CONTACT US

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