

CentralTM Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

D40C1

NPN SILICON
DARLINGTON POWER TRANSISTOR

JEDEC TO-202 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR D40C1 type is a NPN Silicon Darlington Power Transistors designed general purpose amplifier applications where high gain is required.

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

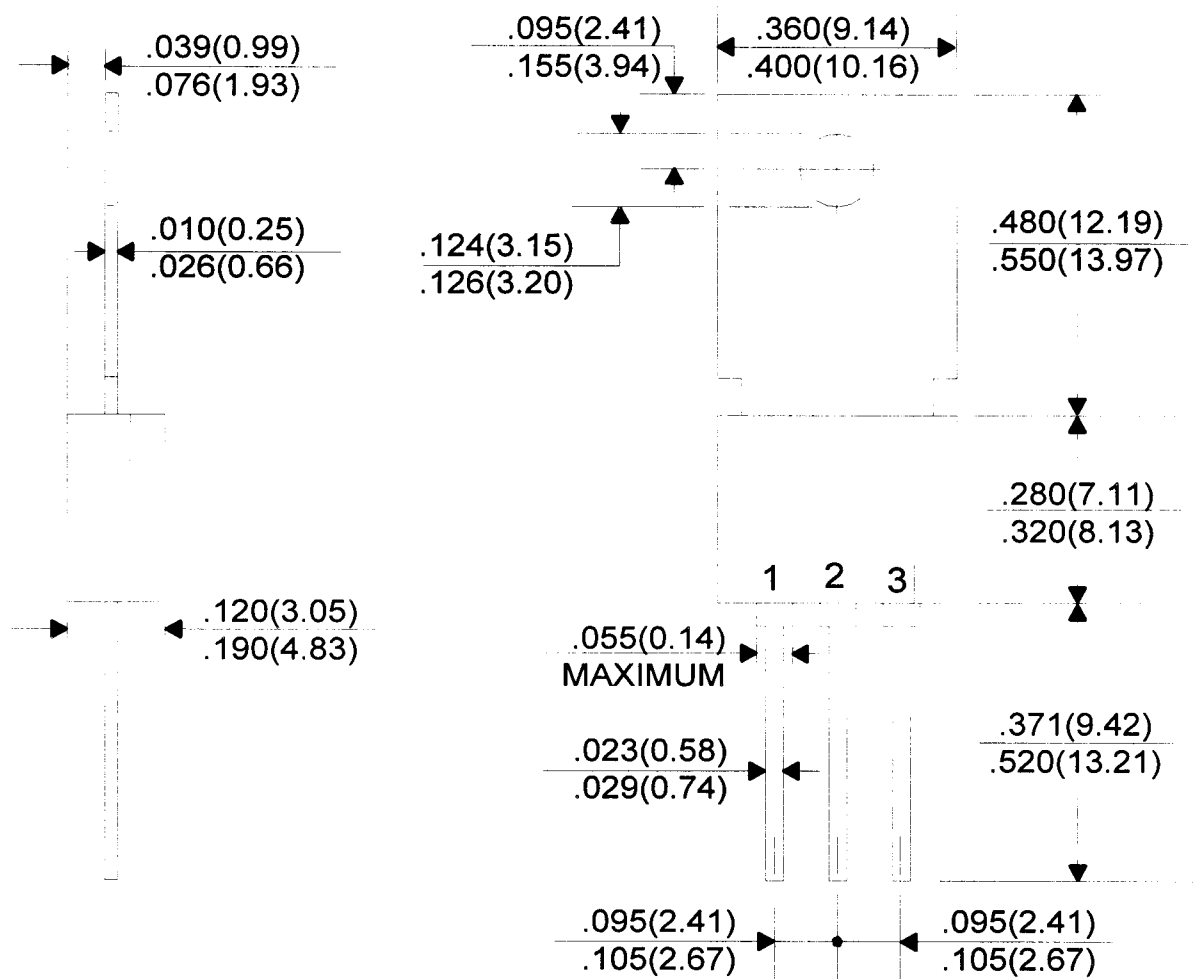
	<u>SYMBOL</u>		<u>UNITS</u>
Collector-Emitter Voltage	V_{CES}	30	V
Collector-Emitter Voltage	V_{CEO}	30	V
Emitter-Base Voltage	V_{EBO}	13	V
Collector Current	I_C	0.5	A
Collector Current (Peak)	I_C	1.0	A
Power Dissipation	P_D	6.25	W
Operating and Storage			
Junction Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$
Thermal Resistance	Θ_{JC}	20	$^\circ\text{C}/\text{W}$

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

<u>SYMBOL</u>	<u>TEST CONDITIONS</u>	<u>MIN</u>	<u>TYP</u>	<u>MAX</u>	<u>UNITS</u>
I_{CES}	$V_{CE}=30\text{V}$			500	nA
I_{CBO}	$V_{CE}=30\text{V}, T_C=150^\circ\text{C}$			20	μA
I_{EBO}	$V_{EB}=13\text{V}$			100	nA
BV_{CEO}	$I_C=10\text{mA}$	30			V
$V_{CE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$			1.5	V
$V_{BE(SAT)}$	$I_C=500\text{mA}, I_B=0.5\text{mA}$			2.0	V
h_{FE}	$V_{CE}=5.0\text{V}, I_C=200\text{mA}$	10K		70K	
f_T	$V_{CE}=5.0\text{V}, I_C=20\text{mA}$		80		MHz
C_{CB}	$V_{CB}=10\text{V}, f=1.0\text{MHz}$			10	pF
t_{on}	$I_C=1.0\text{A}, I_{B1}=1.0\text{mA}$		120		nsec
t_{off}	$I_C=1.0\text{A}, I_{B1}=I_{B2}=1.0\text{mA}$		1200		nsec

(SEE REVERSE SIDE)

JEDEC TO-202 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

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

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