

CentralTM Semiconductor Corp.

145 Adams Avenue, Hauppauge, NY 11788 USA
Tel: (631) 435-1110 • Fax: (631) 435-1824

Manufacturers of World Class Discrete Semiconductors

BC140 SERIES
BC141 SERIES

NPN SILICON TRANSISTOR

JEDEC TO-39 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR BC140 and BC141 series types are NPN Silicon Transistors designed for general purpose switching and amplifier applications.

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

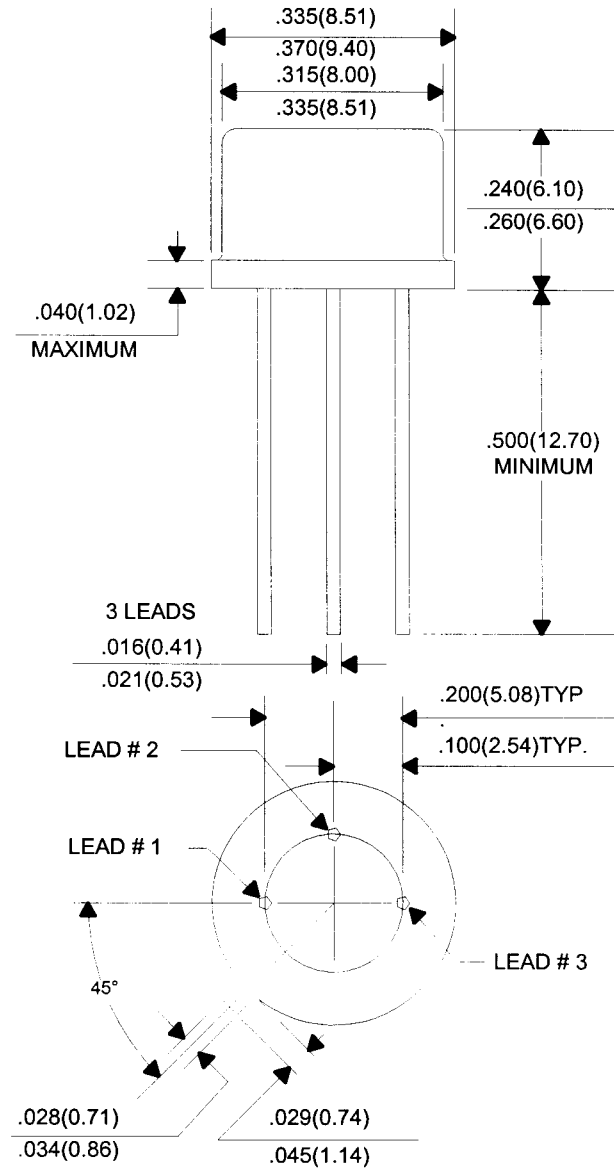
	SYMBOL	BC140	BC141	UNITS
Collector-Base Voltage	V_{CBO}	80	100	V
Collector-Emitter Voltage	V_{CEO}	40	60	V
Emitter-Base Voltage	V_{EBO}		7.0	V
Collector Current	I_C		1.0	A
Collector Current (Peak)	I_{CM}		1.5	A
Base Current (Peak)	I_{BM}		200	mA
Power Dissipation	P_D		0.8	W
Power Dissipation ($T_C=45^\circ\text{C}$)	P_D		3.7	W
Operating and Storage				
Junction Temperature	T_J, T_{stg}	-65 to +200		$^\circ\text{C}$
Thermal Resistance	Θ_{JA}		219	$^\circ\text{C/W}$
Thermal Resistance	Θ_{JC}		42	$^\circ\text{C/W}$

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

SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNITS
I_{CBO}	$V_{CB}=60\text{V}$			100	nA
I_{CBO}	$V_{CB}=60\text{V}, T_A=150^\circ\text{C}$			100	μA
I_{EBO}	$V_{EB}=5.0\text{V}$			100	nA
$V_{CE(SAT)}$	$I_C=1.0\text{A}, I_B=100\text{mA}$			1.0	V
$V_{BE(ON)}$	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$			1.8	V
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\mu\text{A}$ (BC140-10, BC141-10)	50	100		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\mu\text{A}$ (BC140-16, BC141-16)	100	205		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$ (BC140-10, BC141-10)	63	110	160	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=100\text{mA}$ (BC140-16, BC141-16)	100	195	250	
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$ (BC140-10, BC141-10)	10	30		
h_{FE}	$V_{CE}=1.0\text{V}, I_C=1.0\text{A}$ (BC140-16, BC141-16)	15	35		
f_T	$V_{CE}=10\text{V}, I_C=50\text{mA}, f=100\text{MHz}$	50			MHz
C_c	$V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$			25	pF
C_e	$V_{EB}=0.5\text{V}, I_C=0, f=1.0\text{MHz}$			80	pF
t_{on}	$I_C=100\text{mA}, I_{B1}=I_{B2}=5.0\text{mA}$			250	ns
t_{off}	$I_C=100\text{mA}, I_{B1}=I_{B2}=5.0\text{mA}$			850	ns

(See Reverse Side)

JEDEC TO-39 CASE - MECHANICAL OUTLINE



All Dimensions in Inches (mm).

Lead Code:

1. Emitter
2. Base
3. Collector

CentralTM
Semiconductor Corp.