

**PNP BC160/10 – BC160/16**  
**PNP BC161/10 – BC161/16**

## GENERAL PURPOSE TRANSISTORS

They are silicon planar epitaxial PNP transistors mounted in TO-39 metal package.  
 They are particularly designed for audio amplifiers and switching applications up to 1A.  
 NPN complements are the BC140 – BC141.

Compliance to RoHS.

### ABSOLUTE MAXIMUM RATINGS

Symbol	Ratings	Value	Unit	
$-V_{CBO}$	Collector-Base Voltage $I_E = 0$	<b>BC160</b>	40	V
		<b>BC161</b>	60	
$-V_{CEO}$	Collector-Emitter Voltage $I_B = 0$	<b>BC160</b>	40	V
		<b>BC161</b>	60	
$-V_{EBO}$	Emitter-Base Voltage $I_C = 0$	<b>BC160</b>	5	V
		<b>BC161</b>		
$-I_C$	Collector Current	<b>BC160</b>	1	A
		<b>BC161</b>		
$-I_B$	Base Current	<b>BC160</b>	0.1	A
		<b>BC161</b>		
$P_{tot}$		@ $T_{case} = < 45^\circ$	3.7	Watts
		@ $T_{amb} = < 45^\circ$	0.65	
$T_J$	Junction Temperature	175	$^\circ C$	
$T_{Stg}$	Storage Temperature range	-55 to +175	$^\circ C$	

### THERMAL CHARACTERISTICS

Symbol	Ratings	Value	Unit
$R_{thJ-c}$	Thermal Resistance, Junction-case	35	K/ W
$R_{thJ-amb}$	Thermal Resistance, Junction-ambient	200	K/ W

## PNP BC160/10 – BC160/16 PNP BC161/10 – BC161/16

### ELECTRICAL CHARACTERISTICS

TC=25°C unless otherwise noted

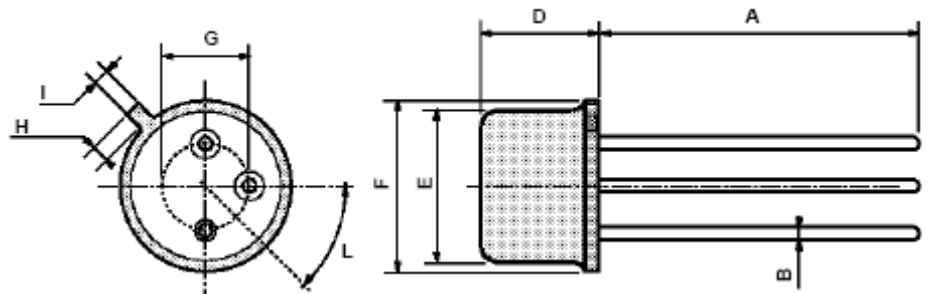
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$-I_{CES}$	Collector – Cutoff Current	$I_E = 0 ; V_{CES} = 40 \text{ V}$	<b>BC160</b>	-	-	100	nA
		$I_E = 0 ; V_{CES} = 60 \text{ V}$	<b>BC161</b>	-	-	-	-
		$I_E = 0 ; V_{CES} = 40 \text{ V}$ $T_{amb} = 150^\circ\text{C}$	<b>BC160</b> <b>BC161</b>	-	-	100	$\mu\text{A}$
$-V_{CB0}$	Collector – Base Breakdown Voltage	$I_C = 100 \mu\text{A}$ $I_E = 0$	<b>BC160</b> <b>BC161</b>	40 60	- -	- -	V
		$I_C = 10 \text{ mA}$ $I_B = 0$	<b>BC160</b> <b>BC161</b>	40 60	- -	- -	V
$-V_{EB0}$	Emitter – Base Breakdown Voltage	$I_E = 100 \mu\text{A}$ $I_C = 0$	<b>BC160</b> <b>BC161</b>	5	-	-	V
$-V_{CE(SAT)} (*)$	Collector-Emitter saturation Voltage	$I_C = 100 \text{ mA}, -I_B = 10 \text{ mA}$		-	0.1		V
		$I_C = 500 \text{ mA}, -I_B = 50 \text{ mA}$		-	0.35		
		$I_C = 1 \text{ A}, -I_B = 100 \text{ mA}$		-	0.6	1	
$-V_{BE} (*)$	Base-Emitter Voltage	$I_C = 1 \text{ A}, -V_{CE} = 1 \text{ V}$		1	1.7		
$h_{FE} (*)$	DC Current Gain	$I_C = 100 \mu\text{A}, -V_{CE} = 1 \text{ V}$	<b>Gr 10</b>	-	110	-	-
			<b>Gr 16</b>	-	80	-	
		$I_C = 100 \text{ mA}, -V_{CE} = 1 \text{ V}$	<b>Gr 10</b>	40	140	250	
			<b>Gr 16</b>	63	100	160	
		$I_C = 1 \text{ A}, -V_{CE} = 1 \text{ V}$	<b>Gr 10</b>	100	160	250	
			<b>Gr 16</b>	-	26	-	
$f_T$	Transition Frequency	$I_C = 50 \text{ mA}, -V_{CE} = 10 \text{ V}$	50	-	-	MHz	
$C_{CB0}$	Collector – base Capacitance	$I_E = 0 ; -V_{CB} = 20 \text{ V}$ $f = 1 \text{ MHz}$	-	15	30	pF	
$t_{off}$	Turn-off times	$I_C = 100 \text{ mA}$ $-I_{B1} = -I_{B2} = 5 \text{ mA}$	-	-	650	ns	
$t_{on}$	Turn-on times	$I_C = 100 \text{ Ma}$ $-I_{B1} = 1 \text{ mA}$	-	-	500	ns	

(\*) Pulsed : pulse duration = 300 $\mu\text{s}$ , duty cycle = 1%

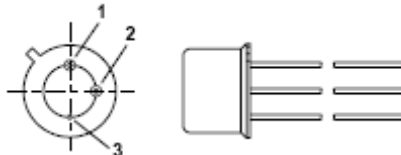
**PNP BC160/10 – BC160/16  
PNP BC161/10 – BC161/16**

**MECHANICAL DATA CASE TO-39**

DIMENSIONS (mm)			
	min	typ	max
A	12.7	-	-
B	-	-	0.49
D	-	-	6.6
E	-	-	8.5
F	-	-	9.4
G	5.08	-	-
H	-	-	1.2
I	-	-	0.9
L	45°	-	-



Pin 1 :	Emitter
Pin 2 :	Base
Case :	Collector



Information furnished is believed to be accurate and reliable. However, CS assumes no responsibility for the consequences of use of such information nor for errors that could appear.

Data are subject to change without notice.