

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

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

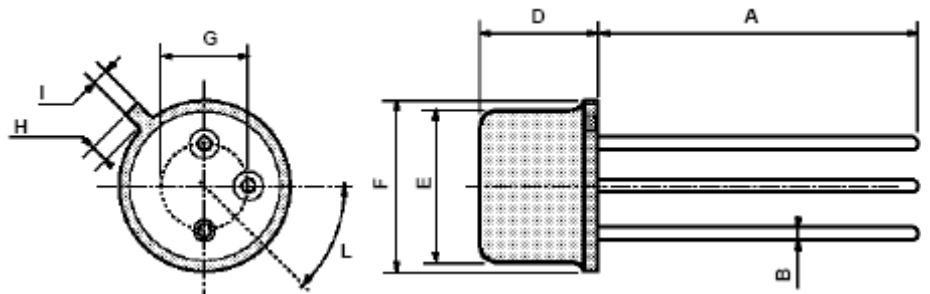
Symbol	Ratings	Test Condition(s)	Min	Typ	Mx	Unit	
$-I_{CES}$	Collector – Cutoff Current	$I_E = 0 ; V_{CES} = 40 \text{ V}$	BC160	-	-	100	nA
		$I_E = 0 ; V_{CES} = 60 \text{ V}$	BC161	-	-	-	-
		$I_E = 0 ; V_{CES} = 40 \text{ V}$ $T_{amb} = 150^\circ\text{C}$	BC160 BC161	-	-	100	μA
$-V_{CB0}$	Collector – Base Breakdown Voltage	$I_C = 100 \mu\text{A}$ $I_E = 0$	BC160 BC161	40 60	- -	- -	V
		$I_C = 10 \text{ mA}$ $I_B = 0$	BC160 BC161	40 60	- -	- -	V
$-V_{EB0}$	Emitter – Base Breakdown Voltage	$I_E = 100 \mu\text{A}$ $I_C = 0$	BC160 BC161	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	$I_C = 100 \mu\text{A}, -V_{CE} = 1 \text{ V}$	Gr 10	-	110	-	-
			Gr 16	-	80	-	
		$I_C = 100 \text{ mA}, -V_{CE} = 1 \text{ V}$	Gr 10	40	140	250	
			Gr 16	63	100	160	
		$I_C = 1 \text{ A}, -V_{CE} = 1 \text{ V}$	Gr 10	100	160	250	
			Gr 16	-	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 μs , duty cycle = 1%

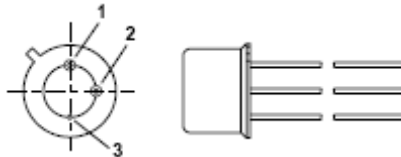
PNP BC160/10 – BC160/16
PNP BC161/10 – BC161/16

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.