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 particulary 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°	3.7	Watts
		@ T_{amb}= < 45°	0.65	
T_J	Junction Temperature		175	°C
T_{Stg}	Storage Temperature range		-55 to +175	°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

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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 V		**BC160**	-	-	100	nA
		I_E= 0 ;V_{CES}= 60 V		**BC161**				
		I_E= 0 ; V T_{amb} = 150°c	V_{CES}=40 V	**BC160**	-	-	100	µA
			V_{CES}=60 V	**BC161**				
$-V_{CB0}$	Collector – Base Breakdown Voltage	$-I_C$ = 100 µA I_E= 0		**BC160**	40	-	-	V
				BC161	60	-	-	
$-V_{CE0}$ (*)	Collector – Emitter Breakdown Voltage	$-I_C$ = 10 mA I_B= 0		**BC160**	40	-	-	V
				BC161	60	-	-	
$-V_{EB0}$	Emitter – Base Breakdown Voltage	$-I_E$= 100 µA I_C= 0		**BC160**	5	-	-	V
				BC161				
$-V_{CE(SAT)}$ (*)	Collector-Emitter saturation Voltage	$-I_C$= 100 mA , $-I_B$= 10 mA			-	0.1		V
		$-I_C$= 500 mA , $-I_B$= 50 mA			-	0.35		
		$-I_C$= 1 A, $-I_B$= 100 mA			-	0.6	1	
$-V_{BE}$ (*)	Base-Emitter Voltage	$-I_C$= 1 A , $-V_{CE}$= 1V				1	1.7	
h_{FE} (*)	DC Current Gain	$-I_C$= 100 µA , $-V_{CE}$= 1 V			-	110	-	-
				Gr 10	-	80	-	
				Gr 16	-	120	-	
		$-I_C$= 100 mA , $-V_{CE}$= 1 V			40	140	250	
				Gr 10	63	100	160	
				Gr 16	100	160	250	
		$-I_C$= 1 A , $-V_{CE}$= 1 V			-	26	-	
				Gr 10	-	20	-	
				Gr 16	-	30	-	
f_T	Transition Frequency	$-I_C$= 50 mA , $-V_{CE}$= 10 V			50	-	-	MH_Z
C_{CBO}	Collector – base Capacitance	I_E= 0 ; $-V_{CB}$= 20V f = 1 MH_Z			-	15	30	pF
t_{off}	Turn-off times	$-I_C$=100 mA $-I_{B1}$=$-I_{B2}$=5 mA			-	-	650	ns
t_{on}	Turn-on times	$-I_C$=100 Ma $-I_{B1}$=1 mA			-	-	500	ns

(*) Pulsed : pulse duration = 300µs, duty cycle = 1%

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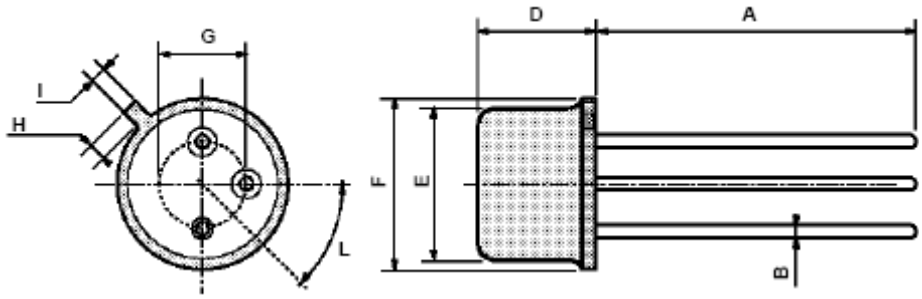
MECHANICAL DATA CASE TO-39

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