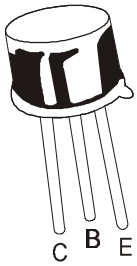
Continental Device India Limited

An IS/ISO 9002 and IECQ Certified Manufacturer

IS/ISO 9002
Lic# QSC/L- 000019.3

PNP SILICON POWER SWITCHING TRANSISTORS

BC160, BC161



TO-39
Metal Can Package

Medium Power Amplifier and Switching Applications

Complementary BC140 and BC141

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BC160	BC161	UNITS
Collector Emitter Voltage	V_{CEO}	40	60	V
Collector Base Voltage	V_{CBO}	40	60	V
Emitter Base Voltage	V_{EBO}	5.0		V
Collector Current - Continuous	I_C	1.0		A
Power Dissipation@ T_a=25ºC	P_D	0.8		W
Derate Above 25ºC		4.57		mW/ ºC
Power Dissipation@ T_c=25ºC	P_D	4.0		W
Derate Above 25ºC		22.73		mW/ ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200		ºC

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th(j-a)}$	219	ºC/W
Junction to Case	$R_{th(j-c)}$	44	ºC/W

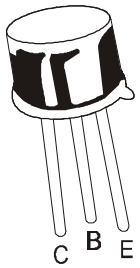
ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION		MIN	TYP	MAX	UNITS
Collector Emitter Voltage	V_{CES}	I_C=100µA, V_{BE}=0					
		BC160		40			V
		BC161		60			V
Collector Emitter Voltage	*V_{CEO}	I_C=10mA, I_B=0					
		BC160		40			V
		BC161		60			V
Emitter Base Voltage	V_{EBO}	I_E=100µA, I_C=0		5			V
Collector Cut off Current	I_{CES}	V_{CE}=40V, V_{BE}=0,	**BC160**			100	nA
		V_{CE}=60V, V_{BE}=0,	**BC161**			100	nA
		T_a=150ºC					
		V_{CE}=40V, V_{BE}=0,	**BC160**			100	µA
		V_{CE}=60V, V_{BE}=0,	**BC161**			100	µA
DC Current Gain	*h_{FE}	I_C=100mA, V_{CE}=1V					
		BC160 / BC161		40		400	
		Group-6		40		100	
		Group-10		63		160	
		Group-16		100		250	

***Pulsed: Pulse duration ≤300µs, duty cycle ≤1%**

PNP SILICON POWER SWITCHING TRANSISTORS

BC160, BC161



TO-39
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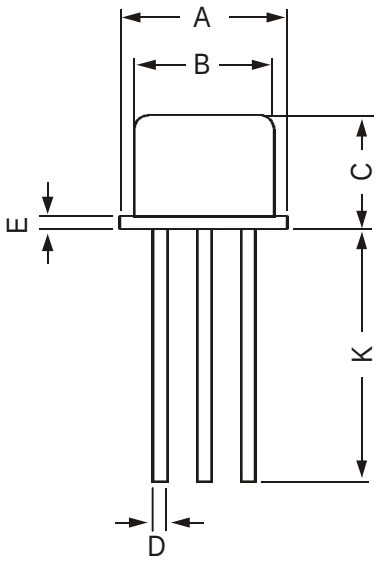
ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNITS
DC Current Gain	*h_{FE}	I_C=1A, V_{CE}=1V				
		BC160 / BC161		26		
		Group-6		15		
		Group-10		20		
		Group-16		30		
Collector Emitter Saturation Voltage	*$V_{CE\ (sat)}$	I_C=1A, I_B=0.1A			1.0	V
Base Emitter on Voltage	*$V_{BE\ (on)}$	I_C=1A, V_{CE}=1V			1.7	V
DYNAMIC CHARACTERISTICS						
Transition Frequency	f_T	I_C=50mA,V_{CE}=10V, f=20MHz	50			MHz
Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz			30	pF
Input Capacitance	C_{ib}	V_{EB}=10V, I_C=0, f=1MHz			180	pF
SWITCHING CHARACTERISTICS						
Turn on time	t_{on}	I_C=150mA, I_{B1}=5µA			500	ns
Turn off time	t_{off}	I_C=100mA, I_{B1}=I_{B2}=5µA			650	ns

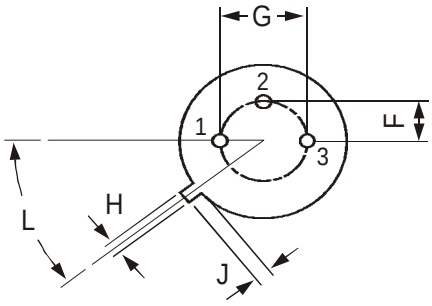
***Pulsed: Pulse duration ≤300µs, duty cycle ≤1%**

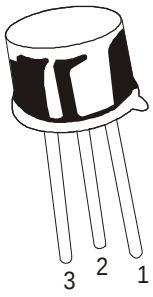
TO-39 Metal Can Package



All dimensions are in mm

DIM	MIN	MAX
A	8.50	9.39
B	7.74	8.50
C	6.09	6.60
D	0.40	0.53
E	—	0.88
F	2.41	2.66
G	4.82	5.33
H	0.71	0.86
J	0.73	1.02
K	12.70	—
L	42 DEG	48 DEG





PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

Packing Details

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-39	500 pcs/polybag	540 gm/500 pcs	3" x 7.5" x 7.5"	20K	17" x 15" x 13.5"	32K	40 kgs

TO-39
Metal Can Package

Disclaimer

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