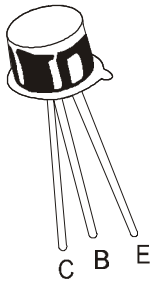
Transistors

Order code	Manufacturer code	Description
81-0026	n/a	BC177 TO18 45V PNP GP TRANSISTOR (RC)
81-0028	n/a	BC178 PNP TO-18 GENERAL PURPOSE (RC)
81-0030	n/a	BC179 TO18 20V PNP GP TRANSISTOR (RC)

Sales: 01206 751166 **Technical: 01206 835555** **Fax: 01206 7551188**
Sales@rapidelec.co.uk **Tech@rapidelec.co.uk** **www.rapidelectronics.co.uk**

PNP SILICON PLANAR TRANSISTORS

BC177/A/B/C
BC178/A/B/C
BC179/A/B/C



TO-18
Metal Can Package

Low Noise General Purpose Audio Amplifiers

ABSOLUTE MAXIMUM RATINGS

DESCRIPTION	SYMBOL	BC177	BC178	BC179	UNIT
Collector Emitter Voltage	V_{CEO}	45	25	20	V
Collector Emitter Voltage	V_{CES}	50	30	25	V
Collector Base Voltage	V_{CBO}	50	30	25	V
Emitter Base Voltage	V_{EBO}	5.0	5.0	5.0	V
Collector Current Continuous	I_C	200			mA
Power Dissipation @ T_a=25ºC	P_D	300			mW
Derate above 25ºC		1.72			mW/ ºC
Power Dissipation @ T_c=25ºC	P_D	750			mW
Derate above 25ºC		4.29			mW/ ºC
Operating and Storage Junction Temperature Range	T_j, T_{stg}	- 65 to +200			ºC

THERMAL CHARACTERISTICS

Junction to Ambient in free air	$R_{th\ (j-a)}$	583	ºC/W
Junction to Case	$R_{th\ (j-c)}$	233	ºC/W

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

DESCRIPTION	SYMBOL	TEST CONDITION	BC177	BC178	BC179	UNIT
Collector Base Voltage	V_{CBO}	I_C=10µA, $I_{E=}$0	>50	>30	>25	V
Collector Emitter Voltage	V_{CEO}	I_C=2mA, $I_{B=}$0	>45	>25	>20	V
Emitter Base Voltage	V_{EBO}	I_E=10µA, I_C=0	>5	>5	>5	V
Collector Cut off Current	I_{CES}	V_{CE}=20V, I_E=0	<100			nA
		V_{CE}=20V, I_E=0, T_a=125ºC	<4			µA
DC Current Gain	h_{FE}	I_C=2mA, V_{CE}=5V				
		BC177	120-460			
		BC178	120-800			
		BC179	180-800			
		A Group	120-220			
		B Group	180-460			
		C Group	380-800			

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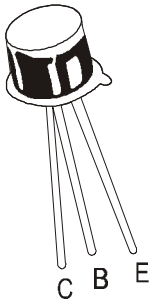
NPN SILICON PLANAR TRANSISTORS

BC177/A/B/C
BC178/A/B/C
BC179/A/B/C



TO-18
Metal Can Package

ELECTRICAL CHARACTERISTICS (T_a=25ºC unless specified otherwise)

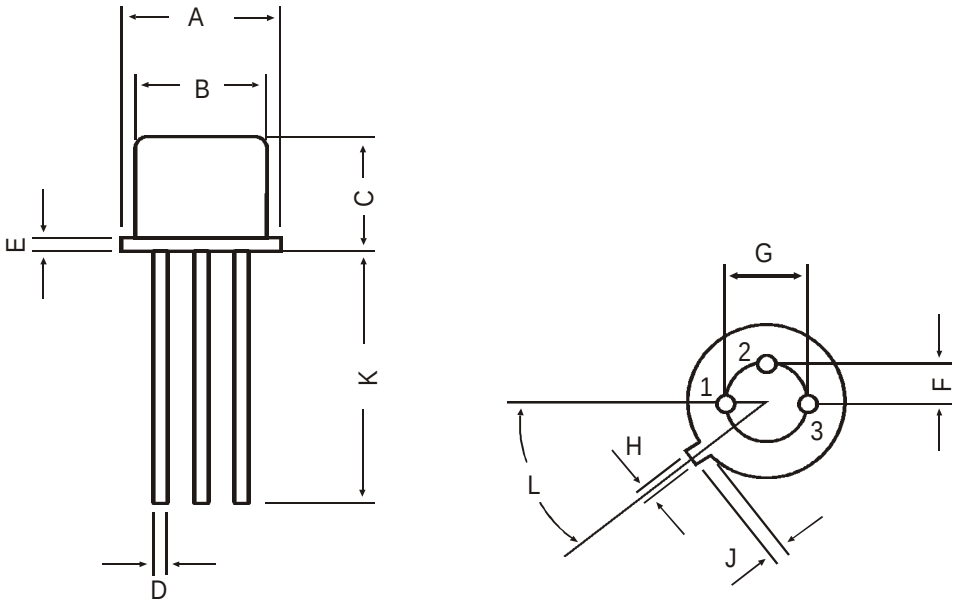
DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Collector Emitter Saturation Voltage	$V_{CE\ (sat)}$	I_C=10mA, I_B=0.5mA			0.20	V
		I_C=100mA, I_B=5mA			0.60	V
Base Emitter Saturation Voltage	$V_{BE\ (sat)}$	I_C=10mA, I_B=0.5mA			0.80	V
		I_C=100mA, I_B=5mA		0.9		V
Base Emitter on Voltage	$V_{BE\ (on)}$	I_C=2mA, V_{CE}=5V	0.6		0.75	V
Collector Knee Voltage	$V_{CE\ (K)}$	I_C=10mA, I_B=the value for which I_C=11mA @ V_{CE}=1V			0.60	V
Transition frequency	f_T	I_C=10mA,V_{CE}=5V, f=50MHz	200			MHz
Output Capacitance	C_{obo}	V_{CB}=10V, I_E=0, f=1MHz			4.0	pF
Noise Figure	NF	I_C=0.2mA,V_{CE}=5V, Rg=2KΩ,				
		f=30Hz to 15KHz **BC179**			4.0	dB
		f=1KHz, F=200Hz, **BC179**			4.0	dB
		BC177/178			10	dB

SMALL SIGNAL CHARACTERISTICS

DESCRIPTION	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Small Signal Current Gain	h_{fe}	I_C=2mA, V_{CE}=5V, f=1KHz				
		BC177	125		500	
		BC178	125		900	
		BC179	240		900	
		A Group	125		260	
		B Group	240		500	
		C Group	450		900	
Input Impedance	h_{ie}	I_C=2mA, V_{CE}=5V, f=1KHz				
		A Group	1.6		4.5	KΩ
		B Group	3.2		8.5	KΩ
		C Group	6.0		15	KΩ
Output Admittance	h_{oe}	I_C=2mA, V_{CE}=5V, f=1KHz				
		A Group			30	µmhos
		B Group			60	µmhos
		C Group			110	µmhos

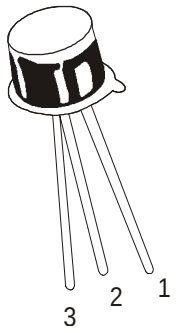
BC177_179Rev_2 231202E

TO-18 Metal Can Package



All diminsions in mm.

DIM	MIN	MAX
A	5.24	5.84
B	4.52	4.97
C	4.31	5.33
D	0.40	0.53
E	—	0.76
F	—	1.27
G	—	2.97
H	0.91	1.17
J	0.71	1.21
K	12.70	—
L	45 DEG	



PIN CONFIGURATION
1. EMITTER
2. BASE
3. COLLECTOR

Packing Detail

PACKAGE	STANDARD PACK		INNER CARTON BOX		OUTER CARTON BOX		
	Details	Net Weight/Qty	Size	Qty	Size	Qty	Gr Wt
TO-18	1K/polybag	350 gm/1K pcs	3" x 7.5" x 7.5"	5K	17" x 15" x 13.5"	80K	34 kgs

Disclaimer

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CDIL is a registered Trademark of
Continental Device India Limited
C-120 Naraina Industrial Area, New Delhi 110 028, India.
Telephone + 91-11-2579 6150 Fax + 91-11-2579 9569, 2579 5290
e-mail sales@cdil.com www.cdil.com www.cdilsemi.com