

**NPN medium power transistors**

**BC140; BC141**

**FEATURES**

- High current (max. 1 A)
- Low voltage (max. 60 V).

**APPLICATIONS**

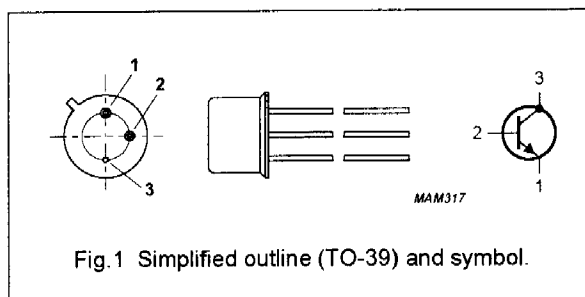
- General purpose switching and amplification.

**DESCRIPTION**

NPN medium power transistor in a TO-39 metal package.  
 PNP complements: BC160 and BC161.

**PINNING**

PIN	DESCRIPTION
1	emitter
2	base
3	collector, connected to case



**QUICK REFERENCE DATA**

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V <sub>CB0</sub>	collector-base voltage	open emitter				
	BC140		—	—	80	V
	BC141		—	—	100	V
V <sub>CE0</sub>	collector-emitter voltage	open base				
	BC140		—	—	40	V
	BC141		—	—	60	V
I <sub>CM</sub>	peak collector current		—	—	1.5	A
P <sub>tot</sub>	total power dissipation	T <sub>case</sub> ≤ 45 °C	—	—	3.7	W
h <sub>FE</sub>	DC current gain	I <sub>C</sub> = 100 mA; V <sub>CE</sub> = 1 V				
	BC140-10; BC141-10		63	100	160	
	BC140-16; BC141-16		100	160	250	
f <sub>T</sub>	transition frequency	I <sub>C</sub> = 50 mA; V <sub>CE</sub> = 10 V; f = 100 MHz	50	—	—	MHz



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CBO</sub>	collector-base voltage	open emitter	-	80	V
	BC140			100	V
V <sub>CEO</sub>	collector-emitter voltage	open base	-	40	V
	BC140			60	V
V <sub>EBO</sub>	emitter-base voltage	open collector	-	7	V
I <sub>C</sub>	collector current (DC)		-	1	A
I <sub>CM</sub>	peak collector current		-	1.5	A
I <sub>BM</sub>	peak base current		-	200	mA
P <sub>tot</sub>	total power dissipation	T <sub>case</sub> ≤ 45 °C	-	3.7	W
T <sub>stg</sub>	storage temperature		-65	+150	°C
T <sub>j</sub>	junction temperature		-	175	°C
T <sub>amb</sub>	operating ambient temperature		-65	+150	°C

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R <sub>th j-a</sub>	thermal resistance from junction to ambient	in free air	200	K/W
R <sub>th j-c</sub>	thermal resistance from junction to case		35	K/W