

BC160

BC161

PNP SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

THE BC160, BC161 ARE PNP SILICON PLANAR EPITAXIAL TRANSISTORS RECOMMENDED FOR AF DRIVERS AND OUTPUTS, AS WELL AS FOR SWITCHING APPLICATIONS UP TO 1 AMPERE. THE BC160, BC161 ARE COMPLEMENTARY TO THE NPN TYPE BC140, BC141 RESPECTIVELY.

CASE TO-39



C E B

ABSOLUTE MAXIMUM RATINGS

	BC160	BC161
Collector-Emitter Voltage ($V_{BE}=0$)	40V	60V
Collector-Emitter Voltage ($I_B=0$)	40V	60V
Emitter-Base Voltage	5V	5V
Collector Current	1A	
Total Power Dissipation (@ $T_C \leq 45^\circ C$)	3.7W	
(@ $T_A \leq 45^\circ C$)	650mW	
Operating Junction & Storage Temperature	-55 to 175°C	

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ C$ unless otherwise noted)

PARAMETER	SYMBOL	BC160 MIN TYP MAX	BC161 MIN TYP MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	$-BV_{CES}$	40	60	V	$-I_C=0.1mA$ $V_{BE}=0$
Collector-Emitter Breakdown Voltage	$-LV_{CEO}^*$	40	60	V	$-I_C=50mA$ $I_B=0$
Emitter-Base Breakdown Voltage	$-BV_{EBO}$	5	5	V	$-I_E=0.1mA$ $I_C=0$
Collector Cutoff Current	$-I_{CES}$	100	100	nA	$V_{CE}=V_{CES}$
		100	100	μA	$V_{CE}=V_{CES}$ $T_A=150^\circ C$
Collector-Emitter Saturation Voltage	$-V_{CE(sat)}^*$	1	1	V	$-I_C=1A$ $-I_B=0.1A$
Base-Emitter Voltage	$-V_{BE}^*$	1.7	1.7	V	$-I_C=1A$ $-V_{CE}=1V$
D.C. Current Gain	H_{FE}^*	40	40		$-I_C=100mA$ $-V_{CE}=1V$
Group 6		40	40		
Group 10		63	63		
Group 16		100	100		
HFE Matched Pair Ratio	$\frac{H_{FE} 1}{H_{FE} 2}^*$	1.41	1.41		$-I_C=100mA$ $-V_{CE}=1V$
Current Gain-Bandwidth Product	f_T	50 140	50 140	MHz	$-I_C=50mA$ $-V_{CE}=10V$
Collector-Base Capacitance	C_{ob}	18 30	18 30	pF	$-V_{CB}=10V$ $I_E=0$ $f=1MHz$
Emitter-Base Capacitance	C_{ib}	180	180	pF	$-V_{EB}=0.5V$ $I_C=0$ $f=1MHz$
Turn-On Time	t_{on}	500	500	nS	$-I_C=100mA$ $-I_B=5mA$
Turn-Off Time	t_{off}	650	650	nS	$-I_C=100mA$ $-I_{B1}=I_{B2}=5mA$

* Pulse Test : Pulse Width=0.3mS, Duty Cycle=1%

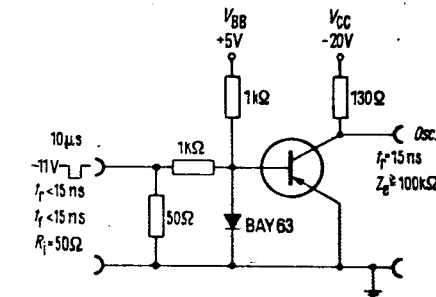
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BC160 . BC161

SWITCHING TIME TEST CIRCUIT (t_{on} , t_{off})



TYPICAL CHARACTERISTICS

