



BC440
BC441

BC460
BC461

COMPLEMENTARY SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES



CASE TO-39

THE BC440, BC441, BC460, BC461 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR AF DRIVERS AND OUTPUTS, AS WELL AS FOR SWITCHING APPLICATIONS UP TO 1 AMPERE. THE BC440, BC441 ARE NPN AND ARE COMPLEMENTARY TO THE PNP BC460, BC461 RESPECTIVELY.



ABSOLUTE MAXIMUM RATINGS

For p-n-p devices, voltage and current values are negative.

BC440(NPN) BC441(NPN)
BC460(PNP) BC461(PNP)

Collector-Emitter Voltage ($R_{BE} \leq 100 \Omega$)	V_{CER}	50V	75V
Collector-Emitter Voltage ($I_B=0$)	V_{CEO}	40V	60V
Emitter-Base Voltage	V_{EBO}	5V	5V
Collector Current	I_C		1A
Collector Peak Current	I_{CM}		2A
Total Power Dissipation ($T_C \leq 25^\circ C, V_{CE} \leq 10V$)	P_{tot}		10W
($T_A \leq 25^\circ C$)			1W
Operating Junction & Storage Temperature	T_j, T_{stg}	-55 to 200°C	

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

PARAMETER	SYMBOL	BC440 BC460		BC441 BC461		UNIT	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
Collector-Emitter Breakdown Voltage	V_{CER}^*	40		60		V	$I_C=100mA, I_B=0$
Emitter-Base Breakdown Voltage	V_{EBO}	5		5		V	$I_E=0.1mA, I_C=0$
Collector Cutoff Current	I_{CBO}		100		100	nA	$V_{CB}=40V, I_E=0$
Collector Cutoff Current	I_{CER}		10		10	μA	$V_{CE}=50V, R_{BE}=100\Omega$
						μA	$V_{CE}=70V, R_{BE}=100\Omega$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}^*$		1		1	V	$I_C=1A, I_B=0.1A$
Base-Emitter Saturation Voltage	$V_{BE(sat)}^*$		1.5		1.5	V	$I_C=1A, I_B=0.1A$
D.C. Current Gain	H_{FE}^*	40	250	40	250	V	$I_C=500mA, V_{CE}=4V$
	Group 4	40	70	40	70		
	Group 5	60	130	60	130		
	Group 6	115	250	115	250		
		20					$I_C=1A, V_{CE}=2V$
Current Gain-Bandwidth Product	f_T	50		50		MHz	$I_C=50mA, V_{CE}=4V$
Collector-Base Capacitance	C_{ob}		25		25	pF	$V_{CB}=10V, I_E=0$
							$f=1MHz$

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

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TYPICAL CHARACTERISTICS

