

BC440
BC441

BC460
BC461

COMPLEMENTARY SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

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.

CASE TO-39



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	
			1W
Operating Junction & Storage Temperature	T_j, T_{stg}	-55 to $200^\circ C$	

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_{CEO}^*	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

