BC300 BC301 BC302

NPN SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

THE BC300, BC301, BC302 ARE NPN SILICON PLANAR EPITAXIAL TRANSISTORS RECOMMENDED FOR AF DRIVERS AND OUTPUTS, AS WELL AS FOR SWITCHING APPLICATIONS UP TO 1 AMPERE. THEY ARE COMPLEMENTARY TO THE PNP TYPE BC303 AND BC304.

CASE TO-39



C E B

ABSOLUTE MAXIMUM RATINGS

		BC300	BC301	BC302
Collector-Base Voltage	V_{CBO}	120V	90V	60V
Collector-Emitter Voltage	V_{CEO}	80V	60V	45V
Emitter-Base Voltage	V_{EBO}		7V	
Collector Current	I_C		1A	
Total Power Dissipation ($T_C \leq 25°C$)	P_{tot}		6W	
($T_A \leq 25°C$)			850mW	
Operating Junction & Storage Temperature	T_j, T_{stg}		-55 to 175°C	

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDTIONS
Collector-Emitter Breakdown Voltage	LV_{CEO} *					I_C=100mA I_B=0
BC300		80			V	
BC301		60			V	
BC302		45			V	
Collector-Emitter Breakdown Voltage	LV_{CEV} *					I_C=100mA V_{EB}=1.5V
BC300 only		120			V	
BC301 only		90			V	
Collector Cutoff Current	I_{CBO}			20	nA	V_{CB}=60V I_E=0
Emitter Cutoff Current	I_{EBO}			20	nA	V_{EB}=7V I_C=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$*		0.1	0.5	V	I_C=150mA I_B=15mA
Base-Emitter Voltage	V_{BE} *		0.78		V	I_C=150mA V_{CE}=10V
D.C. Current Gain	H_{FE} *	20				I_C=0.1mA V_{CE}=10V
		40		240		I_C=150mA V_{CE}=10V
		20				I_C=500mA V_{CE}=10V
D.C. Current Gain Group 4	H_{FE} *	40		80		I_C=150mA V_{CE}=10V
Group 5		70		140		
Group 6		120		240		
Current Gain-Bandwidth Product	f_T		120		MHz	IC=10mA V_{CE}=10V
Collector-Base Capacitance	Cob		10		pF	V_{CB}=10V I_E=0 f=1MHz

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

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BC300 . BC301 . BC302

TYPICAL CHARACTERISTICS







