



BC300 BC301 BC302

NPN SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

CASE TO-39

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.



C E B

ABSOLUTE MAXIMUM RATINGS

		BC300	BC301	BC302
Collector-Base Voltage	V _{CB0}	120V	90V	60V
Collector-Emitter Voltage	V _{CE0}	80V	60V	45V
Emitter-Base Voltage	V _{EB0}		7V	
Collector Current	I _C		1A	
Total Power Dissipation (T _C ≤ 25°C)	P _{tot}		6W	
			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 CONDITIONS
Collector-Emitter Breakdown Voltage	V _{CE0} *					I _C = 100mA I _B = 0
BC300		80			V	
BC301		60			V	
BC302		45			V	
Collector-Emitter Breakdown Voltage	V _{CEV} *					I _C = 100mA V _{EB} = 1.5V
BC300 only		120			V	
BC301 only		90			V	
Collector Cutoff Current	I _{CB0}			20	nA	V _{CB} = 60V I _B = 0
Emitter Cutoff Current	I _{EB0}			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	h _{FE} *	40		80		I _C = 150mA V _{CE} = 10V
Group 4		70		140		
Group 5		120		240		
Group 6						
Current Gain-Bandwidth Product	f _T		120		MHz	I _C = 10mA V _{CE} = 10V
Collector-Base Capacitance	C _{ob}		10		pF	V _{CB} = 10V I _B = 0 f = 1MHz

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

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