

# BC300 BC301 BC302

NPN SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

CASE TO-39



C E B

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.

## ABSOLUTE MAXIMUM RATINGS

		BC300	BC301	BC302
Collector-Base Voltage	VCBO	120V	90V	60V
Collector-Emitter Voltage	VCEO	80V	60V	45V
Emitter-Base Voltage	VEBO		7V	
Collector Current	IC		1A	
Total Power Dissipation (TC ≤ 25°C)	Ptot		6W	
			850mW	
Operating Junction & Storage Temperature	Tj, Tstg		-55 to 175°C	

## ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	LVCEO *					IC=100mA IB=0
BC300		80			V	
BC301		60			V	
BC302		45			V	
Collector-Emitter Breakdown Voltage	LVCEV *					IC=100mA VEB=1.5V
BC300 only		120			V	
BC301 only		90			V	
Collector Cutoff Current	ICBO			20	nA	VCB=60V IE=0
Emitter Cutoff Current	IEBO			20	nA	VEB=7V IC=0
Collector-Emitter Saturation Voltage	VCE(sat)*		0.1	0.5	V	IC=150mA IB=15mA
Base-Emitter Voltage	VBE *		0.78		V	IC=150mA VCE=10V
D.C. Current Gain	HFE *	20				IC=0.1mA VCE=10V
		40		240		IC=150mA VCE=10V
		20				IC=500mA VCE=10V
D.C. Current Gain	HFE *	40		80		IC=150mA VCE=10V
Group 4		70		140		
Group 5		120		240		
Group 6						
Current Gain-Bandwidth Product	fT		120		MHz	IC=10mA VCE=10V
Collector-Base Capacitance	Cob		10		pF	VCB=10V IE=0 f=1MHz

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

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BC300 . BC301 . BC302  
TYPICAL CHARACTERISTICS

