

BC303**BC304**

PNP SILICON AF MEDIUM POWER AMPLIFIERS & SWITCHES

CASE TO-39

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

**ABSOLUTE MAXIMUM RATINGS**

		BC303	BC304
Collector-Base Voltage	$-V_{CB0}$	85V	60V
Collector-Emitter Voltage	$-V_{CEO}$	60V	45V
Emitter-Base Voltage	$-V_{EB0}$	7V	7V
Collector Current	$-I_C$	1A	
Total Power Dissipation ($T_C \leq 25^\circ\text{C}$)	P_{tot}	6W	
		850mW	
Operating Junction & Storage Temperature	T_j, T_{stg}	-55 to 175°C	

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Emitter Breakdown Voltage	$-LV_{CEO} *$					$-I_C=100\text{mA}$ $I_B=0$
BC303		60			V	
BC304		45			V	
Collector-Emitter Breakdown Voltage	$-LV_{CEV}$					$-I_C=100\text{mA}$ $-V_{EB}=1.5\text{V}$
BC303 only		85			V	
Collector Cutoff Current	$-I_{CBO}$			20	nA	$-V_{CB}=60\text{V}$ $I_E=0$
Emitter Cutoff Current	$-I_{EBO}$			20	nA	$-V_{EB}=5\text{V}$ $I_C=0$
Collector-Emitter Saturation Voltage	$-V_{CE(sat)} *$		0.1	0.65	V	$-I_C=150\text{mA}$ $-I_B=15\text{mA}$
Base-Emitter Voltage	$-V_{BE} *$		0.78		V	$-I_C=150\text{mA}$ $-V_{CE}=10\text{V}$
D.C. Current Gain	$H_{FE} *$	20				$-I_C=0.1\text{mA}$ $-V_{CE}=10\text{V}$
		40		240		$-I_C=150\text{mA}$ $-V_{CE}=10\text{V}$
		20				$-I_C=500\text{mA}$ $-V_{CE}=10\text{V}$
D.C. Current Gain	$H_{FE} *$	40		80		$-I_C=150\text{mA}$ $-V_{CE}=10\text{V}$
Group 4		70		140		
Group 5		120		240		
Group 6						
Current Gain-Bandwidth Product	f_T		100		MHz	$-I_C=10\text{mA}$ $-V_{CE}=10\text{V}$
Collector-Base Capacitance	C_{ob}		17		pF	$-V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$

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

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TYPICAL CHARACTERISTICS

