MICRO ELECTRONICS

BC143

GENERAL DESCRIPTION :

The BC143 is a PNP silicon planar epitaxial transistor. It features low saturation voltage, low collector cutoff current and high breakdown voltage. It is intended for use in driver stage of high power audio amplifiers. It can be supplied together with BC144 as a matched pair.

MECHANICAL OUTLINE

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ T_A=25°C, P max	0.8W
Continuous Power Dissipation @ T_A=45°C, P max	0.708W
Continuous Power Dissipation @ T_C=25°C, P max	4W
Continuous Power Dissipation @ T_C=75°C, P max	2.86W
Maximum Collector Junction Temperature, Tj	200°C
Storage Temperature Range, Tstg	-55°C to +200°C
Soldering Temperature (10 sec. time limit)	260°C
Continuous Collector Current, I_C max	-1A
Collector-Base Voltage, V_{CBO}	-60V
Collector-Emitter Voltage, V_{CEO}	-60V
Emitter-Base Voltage, V_{EBO}	-5V

ELECTRICAL CHARACTERISTICS @ T_A=25°C (unless otherwise stated) :

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS	
Collector-Base Breakdown Voltage	BV_{CBO}	-60			V	I_C=-10uA	I_E=0
Collector-Emitter Breakdown Voltage	LV_{CEO}	-60			V	I_C=-10mA	I_B=0
Emitter-Base Breakdown Voltage	BV_{EBO}	-5			V	I_E=-10uA	I_C=0
Collector Cutoff Current	I_{CBO}		-0.1	-50	nA	V_{CB}=-30V	I_E=0
Collector Cutoff Current	I_{CBO}		-0.002	-50	uA	V_{CB}=-30V, T_A=75°C	I_E=0
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.3		V	I_C=-500mA	I_B=-25mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.25	-0.5	V	I_C=-500mA	I_B=-50mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-1.2		V	I_C=-1000mA	I_B=-50mA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.7	-1	V	I_C=-1000mA	I_B=-100mA
Base-Emitter On Voltage	$V_{BE(on)}$		-0.7		V	V_{CE}=-10V	I_C=-10mA
Base-Emitter On Voltage	$V_{BE(on)}$		-0.75		V	V_{CE}=-10V	I_C=-100mA
Base-Emitter On Voltage	$V_{BE(on)}$		-0.85		V	V_{CE}=-1V	I_C=-300mA
Base-Emitter On Voltage	$V_{BE(on)}$		-0.93		V	V_{CE}=-1V	I_C=-500mA

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ELECTRICAL CHARACTERISTICS @ $T_A=25^oC$ (unless otherwise stated) :

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
D.C. Current Gain	h_{FE}		88			V_{CE}=-10V I_C=-10mA
D.C. Current Gain	h_{FE}		85			V_{CE}=-10V I_C=-10mA
D.C. Current Gain	h_{FE}	20	40			V_{CE}=-1V I_C=-300mA
D.C. Current Gain	h_{FE}	15	30			V_{CE}=-1V I_C=-500mA
High Frequency Current Gain	h_{fe}		1.5			V_{CE}=-10V I_C=-50mA f=100MHz
Collector-Base Capacitance	Cob		13		pF	V_{CB}=-10V I_E=0
BC143-BC144 match pair	h_{FE} ratio	0.8		1.25		V_{CE}=-1V I_C=-500mA