MICRO ELECTRONICS

BSY 88

GENERAL DESCRIPTION :

The BSY88 is a NPN silicon planar epitaxial transistor. It features high breakdown and low saturation voltage. It is intended for medium power amplifier driver stage and general purpose industrial applications.

MECHANICAL OUTLINE

THERMAL CHARACTERISTICS :

Thermal Resistance from Junction to Ambient, θ(j-amb)	0.22°C/mW
Thermal Resistance from Junction to Case, θ(j-case)	0.058°C/mW
Maximum Collector Junction Temperature, Tj	200°C
Storage Temperature Range, Tstg	-65°C to +200°C
Soldering Temperature (1/16 inch from Case for 10 seconds)	260°C

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ T_A=25°C, P max	0.8W
Continuous Power Dissipation @ T_C=25°C, P max	3W
Continuous Power Dissipation @ T_C=100°C, P max	1.7W
Continuous Collector Current, I_C max	500mA
Collector-Base Voltage, V_{CBO}	100V
Collector-Emitter Voltage, V_{CEO}	60V
Emitter-Base Voltage, V_{EBO}	7V

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Collector-Base Cutoff Current	I_{CBO}		0.5	10	nA	V_{CB}=75V
Collector-Base Cutoff Current	I_{CBO}		0.4	10	nA	V_{CB}=75V T_A=150°C
Emitter-Base Cutoff Current	I_{EBO}		1	10	nA	V_{EB}=5V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.18	0.6	V	I_C=150mA I_B=15mA
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		0.95	1.2	V	I_C=150mA I_B=15mA
D.C. Current Gain	h_{FE}	35	100			V_{CE}=10V I_C=0.1mA
D.C. Current Gain	h_{FE}		125			V_{CE}=10V I_C=1mA
D.C. Current Gain	h_{FE}	75	180			V_{CE}=10V I_C=10mA
D.C. Current Gain	h_{FE}	100		300		V_{CE}=10V I_C=150mA
D.C. Current Gain	h_{FE}	35				V_{CE}=10V I_C=500mA
Collector-Base Capacitance	C_{CB}			10	pF	V_{CB}=10V f=1MHz
Emitter-Base Capacitance	C_{EB}			35	pF	V_{EB}=0.5V f=1MHz
Transition Frequency	f_T		180		MHz	V_{CB}=10V I_C=50mA f=50MHz
Noise Figure	N.F.		6		dB	V_{CE}=10V I_C=0.3mA Rg=1.5Kohm f=30Hz to 15KHz

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

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	TEST CONDITIONS
Small Signal Current Gain	h_{fe}	60	150	280		V_{CE}=5V I_C=1mA f=1KHz
Input Impedance	h_{ie}	2	3.5	9.5	Kohm	V_{CE}=5V I_C=1mA f=1KHz
Voltage Feedback Ratio	h_{re}		0.7	3	10^{-4}	V_{CE}=5V I_C=1mA f=1KHz
Output Admittance	h_{oe}	3	6	10	uS	V_{CE}=5V I_C=1mA f=1KHz

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