

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, $\theta(j-amb)$
 Thermal Resistance from Junction to Case, $\theta(j-case)$
 Maximum Collector Junction Temperature, T_j
 Storage Temperature Range, T_{stg}
 Soldering Temperature (1/16 inch from Case for 10 seconds)

0.22°C/mW
 0.058°C/mW
 200°C
 -65°C to +200°C
 260°C

ABSOLUTE MAXIMUM RATINGS :

Continuous Power Dissipation @ $T_A=25^\circ\text{C}$, P_{max}
 Continuous Power Dissipation @ $T_C=25^\circ\text{C}$, P_{max}
 Continuous Power Dissipation @ $T_C=100^\circ\text{C}$, P_{max}
 Continuous Collector Current, I_C max
 Collector-Base Voltage, V_{CB0}
 Collector-Emitter Voltage, V_{CEO}
 Emitter-Base Voltage, V_{EBO}

0.8W
 3W
 1.7W
 500mA
 100V
 60V
 7V

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

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



MICRO ELECTRONICS LTD. 美科有限公司

38, Hung To Road, Microtron Building, Kwun Tong, Kowloon, Hong Kong.
 Kwun Tong P.O. Box 69477 Hong Kong. Fax No. 341 0321 Telex: 43510 Micro Hx. Tel: 343 0181-5

----- CONTINUE -----

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

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