

PNP Plastic-Encapsulate Transistors

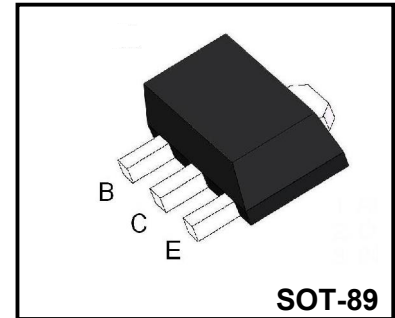
Applications

- ♣ Audio power amplifier
- ♣ DC-DC convertor
- ♣ Voltage regulator

Features

- ♣ High breakdown voltage and high current.
- BV_{CEO}= -80V, I_C= -1A
- ♣ Complement to 2SD1898

Marking : ZL



SOT-89

Absolute Maximum Rating (Ta=25°C)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV _{CBO}	-80	V
Collector-Emitter Voltage	BV _{CEO}	-80	V
Emitter-Base Voltage	BV _{EBO}	-5	V
Collector Current	I _C	-1	A
Collector Power Dissipation	P _C	-0.5	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55~150	°C

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	Value			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	BV _{CBO}	I _C = -50μA, I _E = 0	-80			V
Collector-emitter breakdown voltage	BV _{CEO}	I _C = -1mA, I _B = 0	-80			V
Emitter-base breakdown voltage	BV _{EBO}	I _E = -50μA, I _C = 0	-5			V
Collector -base cut-off current	I _{CBO}	V _{CB} = -60V, I _E = 0			-1	μA
Emitter- base cut-off current	I _{EBO}	V _{EB} = -4V, I _C = 0			-1	μA
DC current gain*	h _{FE}	V _{CE} = -3V, I _C = -0.1A	82		390	
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -500mA, I _B = -50mA			-0.4	V
Base -emitter saturation voltage	V _{BE(sat)}	I _C = -500mA, I _B = -50mA			-1.0	V
Transition frequency	f _T	V _{CE} = -5V, I _B = -50mA		100		MHz
Output capacitance	C _{ob}	V _{CB} = -10V, I _E = 0A, f = 1MHz		25		pF

* Measured using pulse current

h_{FE}(2) Classification

Classification	P	Q	R
Range	82-180	120-270	180-390

Typical Characteristics

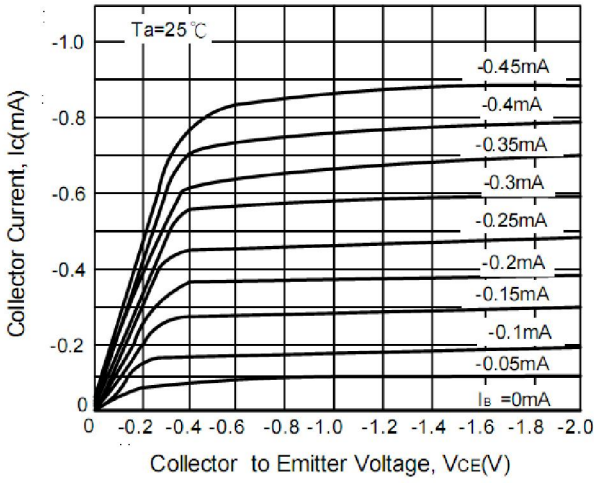


Figure 1. Static Characteristic

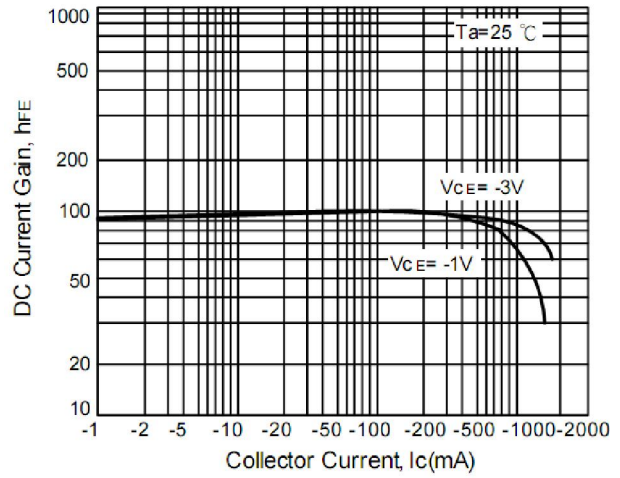


Figure 2. DC current Gain

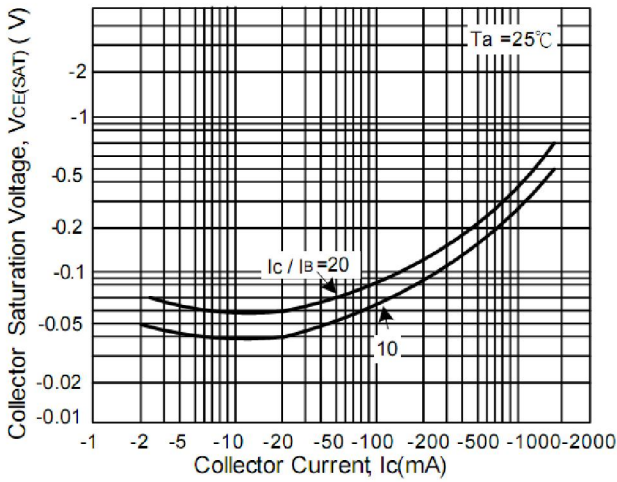


Figure 3. Collector-Emitter Saturation Voltage

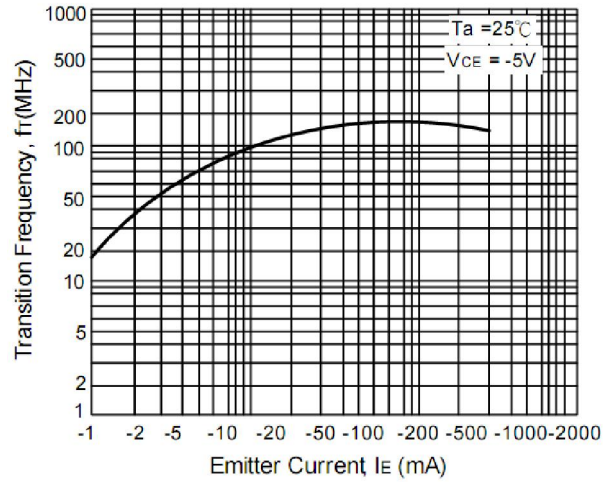


Figure 4. Current Gain Bandwidth Product

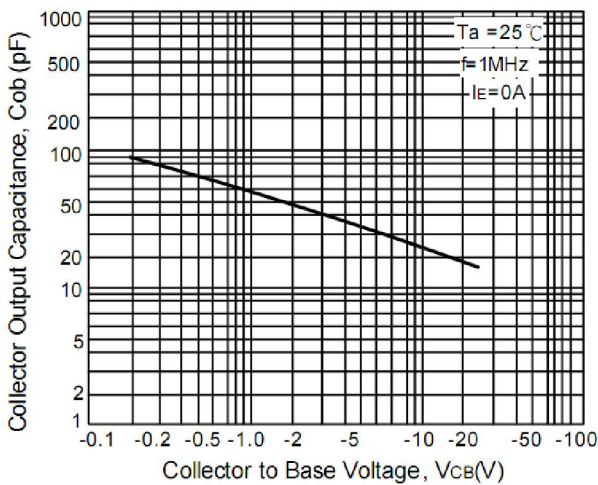


Figure 5. Collector Output Capacitance

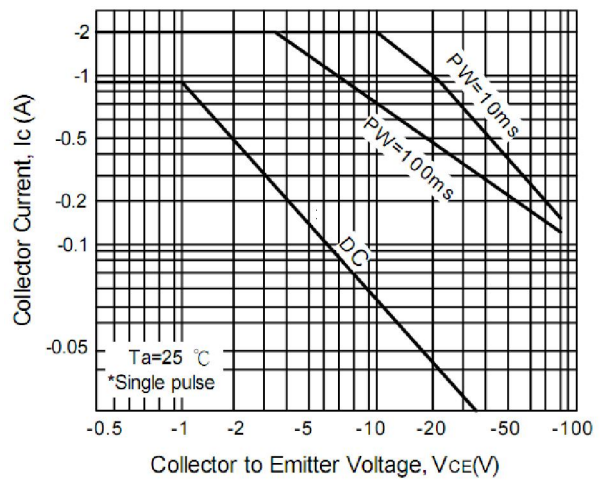


Figure 6. Safe Operating Area

Package Outline

SOT-89

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
b	0.32	0.52	0.013	0.020
b1	0.38	0.58	0.015	0.023
c	0.35	0.45	0.014	0.018
D	4.40	4.60	0.173	0.181
D1	1.45	1.65	0.057	0.065
D2	1.70	1.80	0.067	0.071
E	2.30	2.60	0.091	0.102
E1	3.95	4.25	0.156	0.167
E2	1.80	2.00	0.071	0.079
e	1.40	1.60	0.055	0.063
e1	2.80	3.20	0.110	0.126
L	0.90	1.20	0.035	0.047

Summary of Packing Options

Package	Package Description	Packing Quantity	Industry Standard
SOT-89	Tape/Reel, 7" reel	1000	EIA-481-1

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