

1. BASE

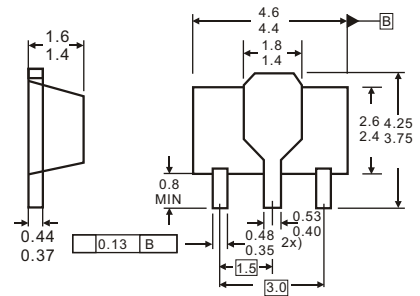
2. COLLECTOR

3. EMITTER

Features

- ✧ Audio amplifier
- ✧ Flash unit of camera
- ✧ Switching circuit

SOT-89



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	40	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current -Continuous	5	A
P _C	Collector Power Dissipation	750	mW
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C =0.1mA, I _E =0	40			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, I _B =0	30			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C =0	7			V
Collector cut-off current	I _{CBO}	V _{CB} = 10V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =7V, I _C =0			0.1	μA
DC current gain	h _{FE(1)}	V _{CE} = 2 V, I _C =1mA		200		
	h _{FE(2)}	V _{CE} = 2V, I _C = 500mA	230		800	
	h _{FE(3)}	V _{CE} = 2V, I _C =2A	150			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =3A, I _B =0.1A			1	V
Transition frequency	f _T	V _{CE} =6V, I _C =50mA		150		MHz
Out capacitance	Cob	V _{CB} =20 V , I _E =0, f=1MHz			50	pF

CLASSIFICATION OF h_{FE(2)}

Rank	Q	R	S
Range	230-380	340-600	560-800

Typical Characteristics

Fig.1 Static characteristics

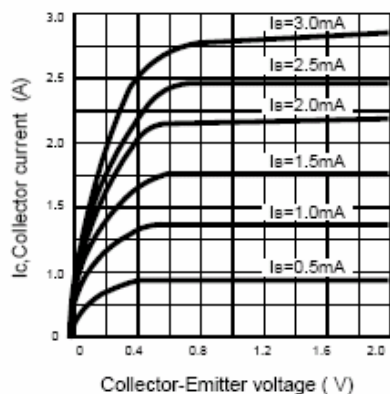


Fig.2 DC current Gain

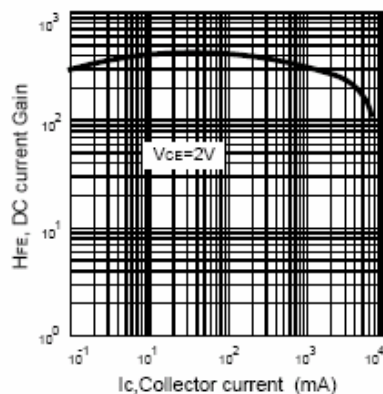


Fig.3 Base-Emitter on Voltage

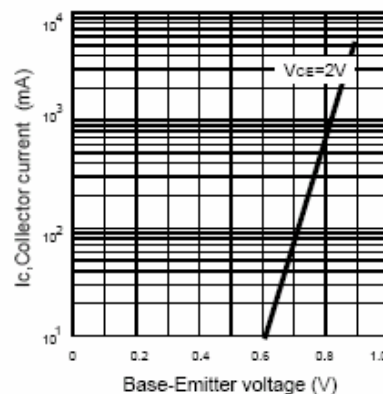


Fig.4 Saturation voltage

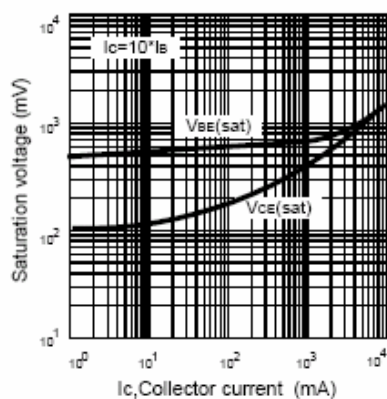


Fig.5 Current gain-bandwidth product

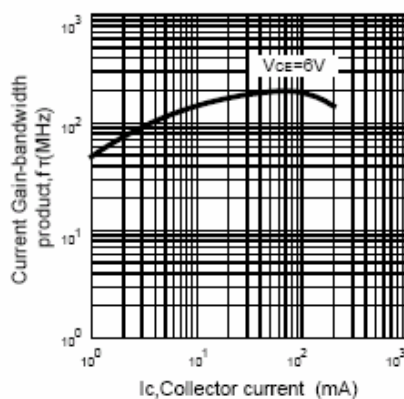


Fig.6 Collector output Capacitance

