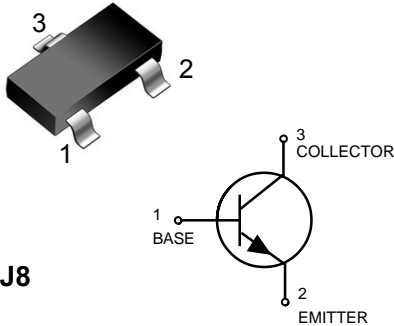


SOT-23

MARKING: J8
Features

AM/FM amplifier, local oscillator of FM/VHF tuner
 High current gain bandwidth product $f_T=1.1$ GHz (Typ)
 Epitaxial planar die construction
 Halogen free and RoHS compliant

Mechanical Data

SOT-23 Small Outline Plastic Package
 Epoxy UL:94V-0

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOT-23	Tape/Reel,7" reel	3000	EIA-481-1

Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	30	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current -Continuous	I_C	50	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature	T_{stg}	-55-150	°C

Electrical Characteristics

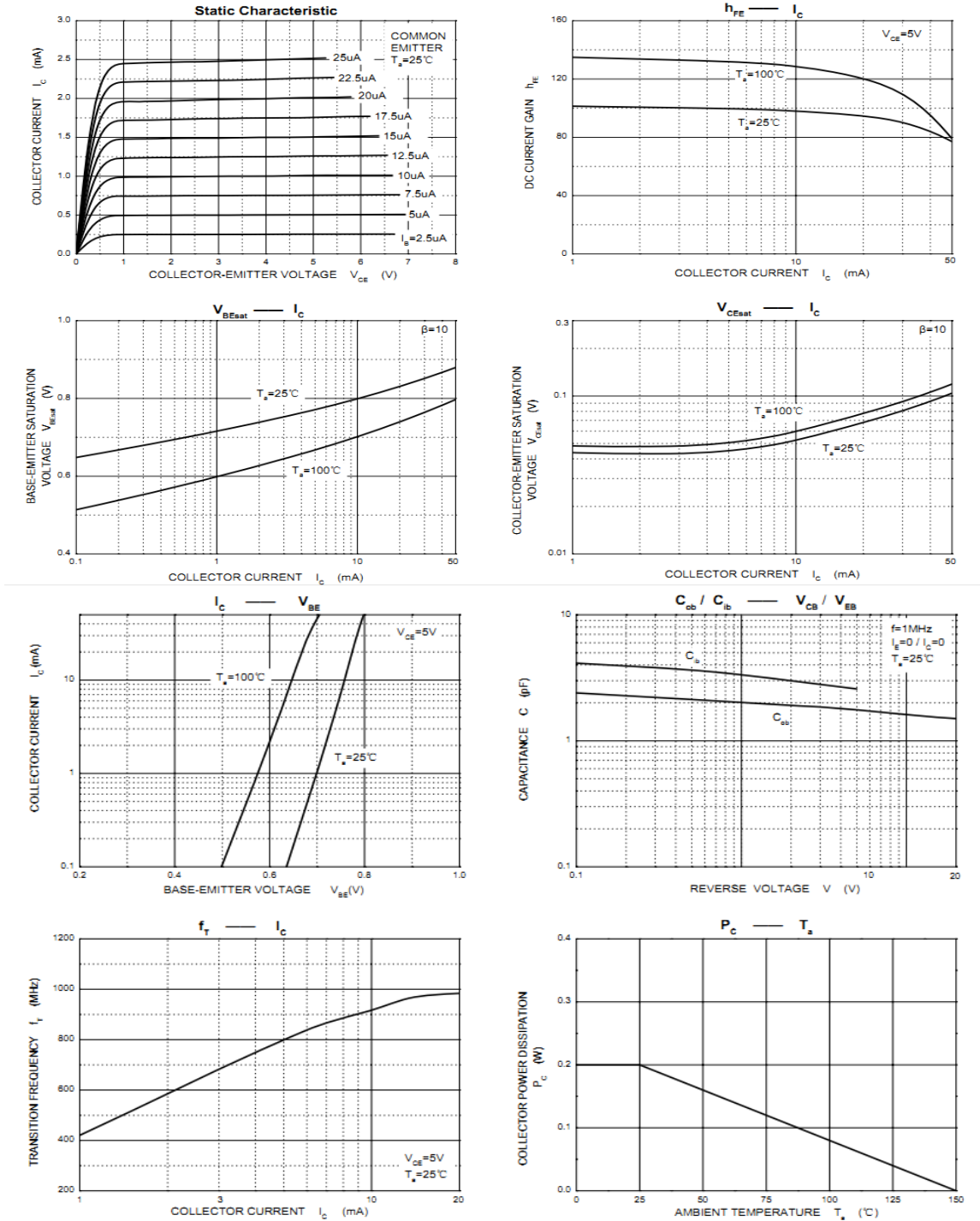
(Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	15			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=12V, I_E=0$			0.05	μA
Collector cut-off current	I_{CEO}	$V_{CE}=12V, I_B=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1mA$	70		200	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$			1.4	V
Transition frequency	f_T	$V_{CE}=5V, I_C=5mA$ $f=400MHz$		850		MHz

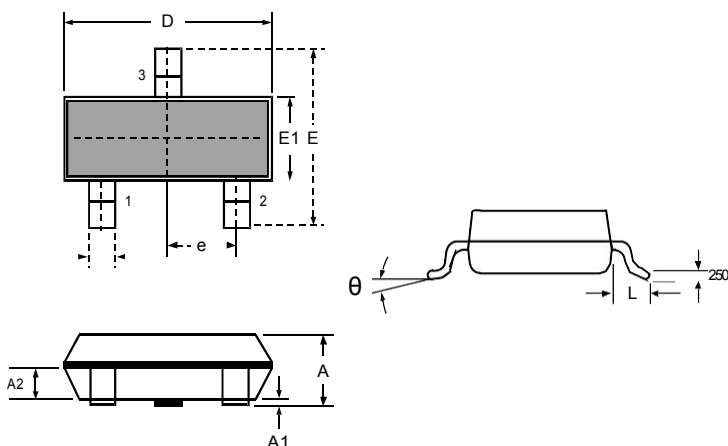
CLASSIFICATION OF h_{FE}

Rank	L	H
Range	70-100	100-200

Ratings and Characteristic Curves



Package Outline Dimensions: SOT-23



DIMENSIONS

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
D	2.800	3.000	0.110	0.118
b	0.300	0.500	0.012	0.020
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.500	0.012	0.020
θ	0	8°	0	8°