

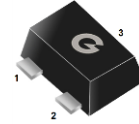
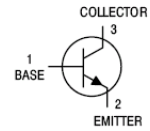
Features

- Epitaxial planar die construction
- High transition frequency

HF

Mechanical Data

- Case: SOT-723
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-723

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
2SC3837M	SOT-723	10000pcs / Tape & Reel	AC

Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CBO}	30	V
Collector-Emitter Breakdown Voltage	V _{CEO}	20	V
Emitter-Base Breakdown Voltage	V _{EBO}	3	V
Collector Current (Continuous)	I _C	50	mA

Thermal Characteristics

Parameter	Symbol	Value	Unit
Collector Power Dissipation *1	P _C	265	mW
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 10\mu\text{A}, I_E = 0$	30	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 1\text{mA}, I_B = 0$	20	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 10\mu\text{A}, I_C = 0$	3	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 15\text{V}, I_E = 0$	-	-	0.5	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 2\text{V}, I_C = 0$	-	-	0.5	μA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	82	-	270	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 20\text{mA}, I_B = 4\text{mA}$	-	-	0.5	V
Transition Frequency	f_T	$I_E = -10\text{mA}, V_{CE} = 10\text{V}$ $f = 200\text{MHz}$	0.6	1.5	-	GHZ
Output Capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$	-	-	1.5	pF

Ratings and Characteristic Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

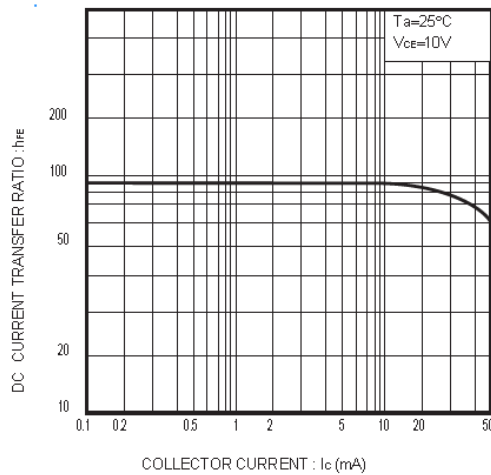


Fig.1 DC current gain vs. collector current

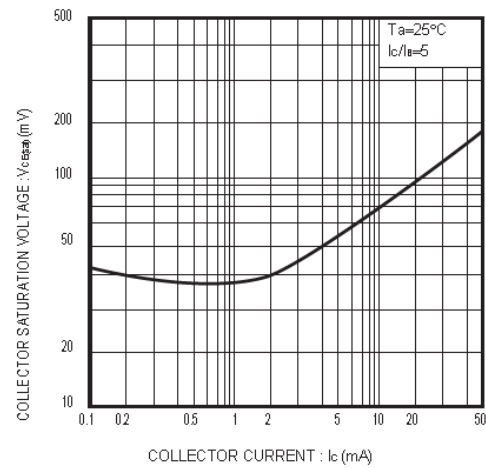


Fig.2 Collector-emitter saturation voltage vs. collector current

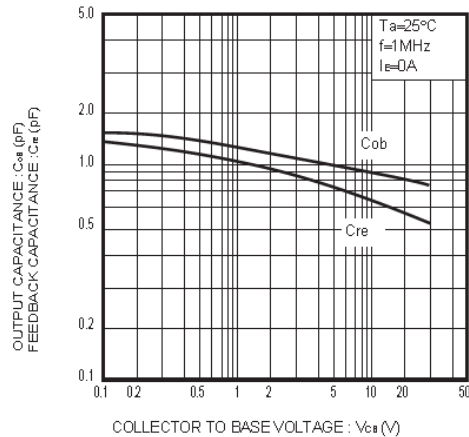


Fig.3 Capacitance vs. reverse bias voltage

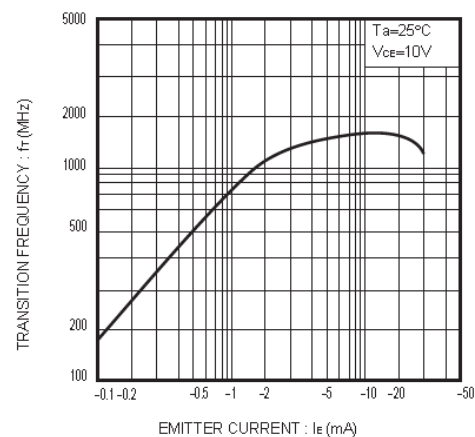
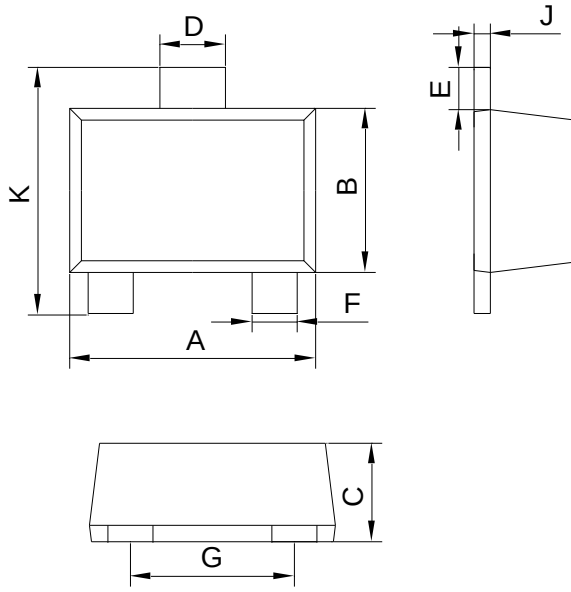


Fig.4 Gain bandwidth product vs. emitter current

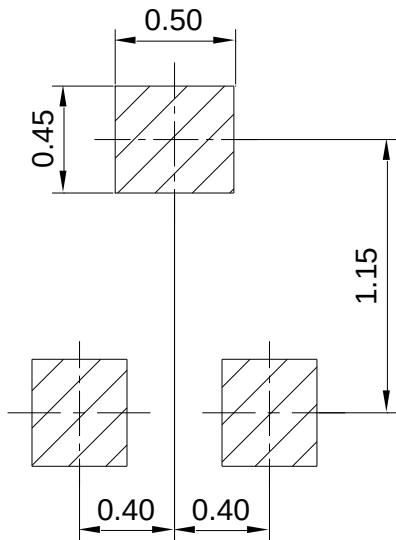
Package Outline Dimensions (Unit: mm)



SOT-723		
Dimension	Min.	Max.
A	1.10	1.30
B	0.70	0.90
C	0.40	0.54
D	0.22	0.42
E	0.10	0.30
F	0.12	0.32
G	0.70	0.90
J	0.08	0.15
K	1.10	1.30

Mounting PAD Layout (Unit: mm)

SOT-723



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