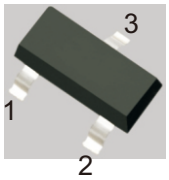
2SA1037
PNP TRANSISTOR

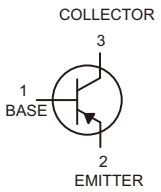
FEATURES

- Excellent h_{FE} linearity
- Complements the 2SC2412Q/R/S

PINNING

PIN	DESCRIPTION
1	BASE
2	EMITTER
3	COLLECTOR





Simplified outline SOT-23 and symbol

CLASSIFICATION OF hFE

Rank	Q	R	S
Range	120-270	180-390	270-560

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

Parameter	Symbol	Value	Unit
Collector–Base Voltage	V_{CBO}	-60	V
Collector–Emitter Voltage	V_{CEO}	-50	V
Emitter–Base Voltage	V_{EBO}	-6	V
Collector Current — Continuous	I_C	-150	mA
Collector Power Dissipation	P_C	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	417	°C/W
Operation Junction and Storage Temperature Range	T_J , T_{stg}	-55~ +150	°C

ELECTRICAL CHARACTERISTICS (TA = 25°C unless otherwise noted.)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C = -50uA , I_E = 0	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C = -1mA , I_B = 0	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E = -50uA , I_C = 0	-6			V
Collector cut-off current	I_{CBO}	V_{CB} = -60V, I_E = 0			-100	nA
Emitter cut-off current	I_{EBO}	V_{EB} = -6V, I_C =0			-100	nA
DC current gain	h_{FE}	V_{CE} = -6V, I_C = -1mA	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = -50mA , I_B = -5mA			-0.5	V
Transition frequency	f_T	V_{CE} = -12V, I_C = -2mA , f=30MHz		140		MHz
Collector output capacitance	C_{ob}	V_{CB} = -12V , I_E = 0, f = 1MHz			5	pF

TYPICAL CHARACTERISTICS

Fig 1. Static characteristics

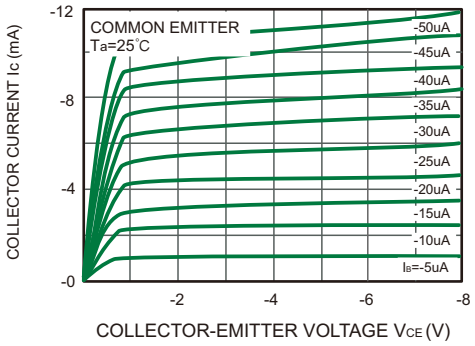


Fig 2. PC —— Ta

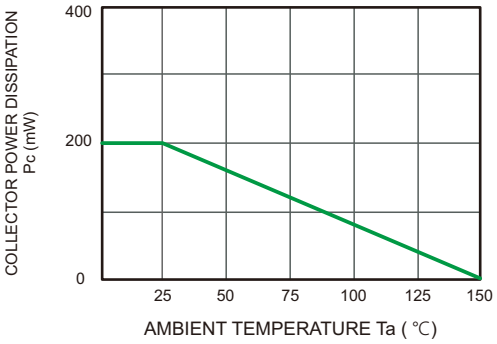


Fig 3. Cob / Cib —— VCB / VEB

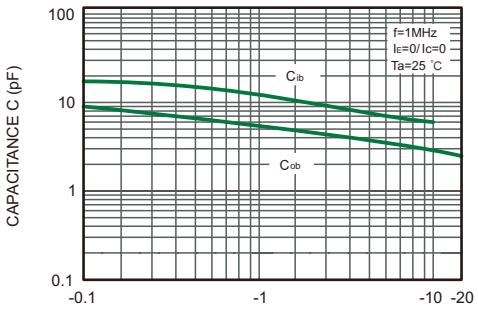


Fig 4. VCEsat —— IC

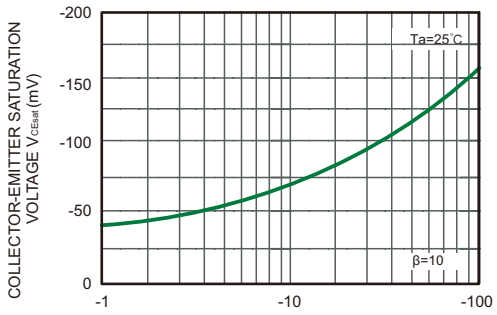


Fig 5. hFE —— IC

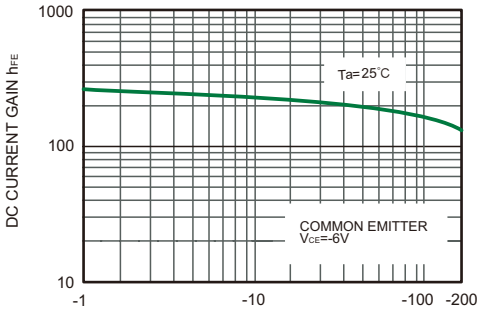


Fig 6. VBEsat —— IC

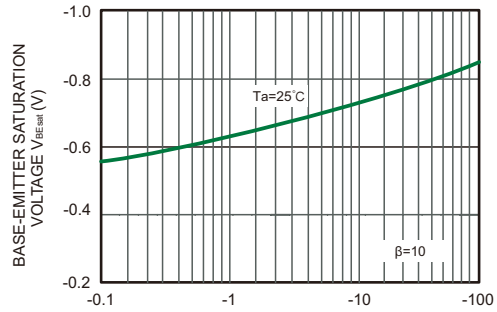


Fig 7. VBE —— IC

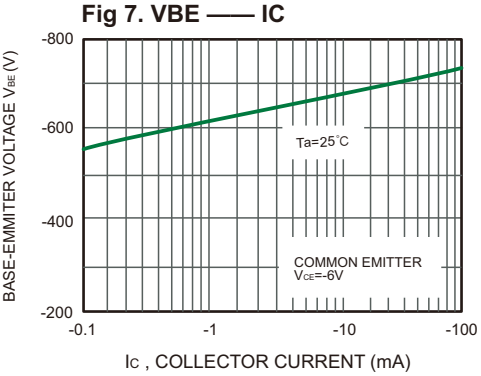
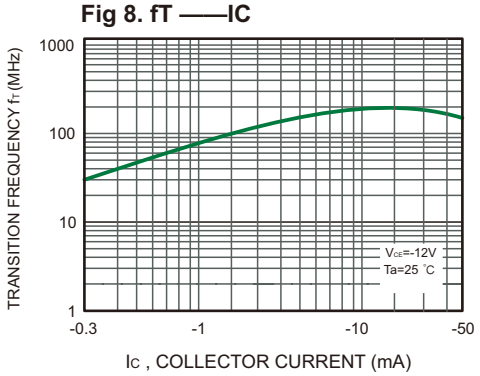
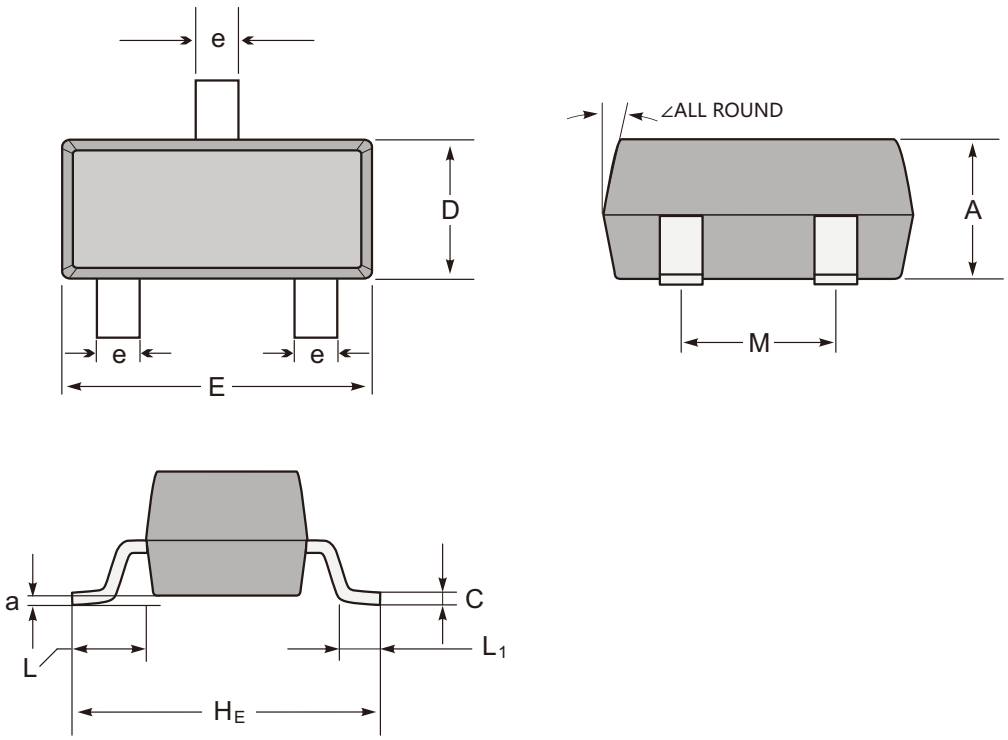


Fig 8. fT ——IC



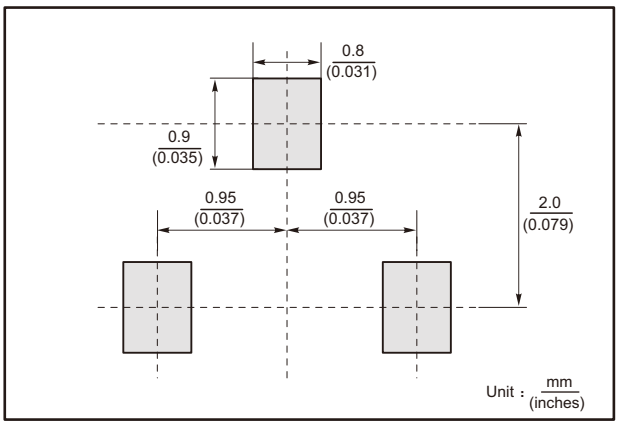
SOT-23 Package Outline Dimensions



SOT-23 mechanical data

UNIT		A	C	D	E	H_E	e	M	L	L_1	a	∠
mm	max	1.1	0.20	1.4	3.0	2.6	0.6	1.95	0.55 (ref)	0.36 (ref)	0.15	12°
	min	0.9	0.08	1.2	2.8	2.2	0.35	1.7			0.0	
mil	max	43	7.9	55	118	102	24	77	22 (ref)	14 (ref)	6	
	min	35	3.1	47	110	87	13	67			0.0	

The recommended mounting pad size



Marking

Type number	Marking code
2SA1037Q	FQ
2SA1037R	FR
2SA1037S	FS

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