

Silicon NPN Power Transistors

2SC2837

DESCRIPTION

- With TO-3PN package
- Complement to type 2SA1186

APPLICATIONS

- For audio and general purpose applications

PINNING

PIN	DESCRIPTION
1	Base
2	Collector;connected to mounting base
3	Emitter

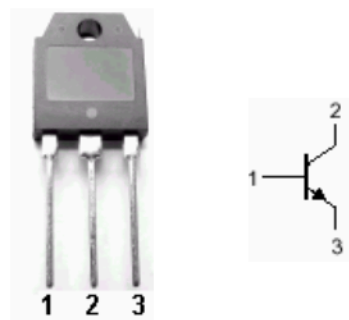


Fig.1 simplified outline (TO-3PN) and symbol

Absolute maximum ratings ($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-base voltage	Open emitter	150	V
V_{CEO}	Collector-emitter voltage	Open base	150	V
V_{EBO}	Emitter-base voltage	Open collector	5	V
I_C	Collector current		10	A
I_B	Base current		2	A
P_C	Collector power dissipation	$T_C=25$	100	W
T_j	Junction temperature		150	
T_{stg}	Storage temperature		-55~150	

Silicon NPN Power Transistors**2SC2837****CHARACTERISTICS**T_j=25 unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V _{(BR)CEO}	Collector-emitter breakdown voltage	I _C =25mA ; I _B =0	150			V
V _{CEsat}	Collector-emitter saturation voltage	I _C =5A ; I _B =0.5A			2.0	V
I _{CBO}	Collector cut-off current	V _{CB} =150V; I _E =0			0.1	mA
I _{EBO}	Emitter cut-off current	V _{EB} =5V; I _C =0			0.1	mA
h _{FE}	DC current gain	I _C =3A ; V _{CE} =4V	50			
f _T	Transition frequency	I _E =-1A ; V _{CE} =12V		70		MHz
C _{OB}	Collector output capacitance	f=1MHz; V _{CB} =80V		60		pF

Switching times

t _{on}	Turn-on time	I _C =5A I _{B1} =-I _{B2} =0.5A V _{CC} =60V, R _L =12Ω		0.2		μs
t _s	Storage time			1.4		μs
t _f	Fall time			0.35		μs

◆ h_{FE} Classifications

O	P	Y
50-100	70-140	90-180

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Technical drawing of a mechanical part showing front, side, and top views with dimensions.

Front View Dimensions:

- Overall width: 15.60
- Inner width: 13.50
- Top section width: 10.00
- Top section inner width: 8.00
- Top section hole diameter: $30\text{-}\phi 11.50$
- Top section hole diameter: $10\text{-}\phi 13.50$
- Top section hole diameter: $R0.50$
- Top section hole diameter: 12.00
- Top section hole diameter: $10\text{-}\phi 12.05^{+0.05}_0$
- Top section hole diameter: 0.60
- Top section hole diameter: 3.25
- Top section hole diameter: 2.00
- Top section hole diameter: 0.00
- Top section hole diameter: 2.00

Side View Dimensions:

- Overall height: 40.10
- Top section height: 7.00
- Top section width: 13.50
- Top section hole diameter: 17.00
- Top section hole diameter: 3.00
- Top section hole diameter: 2.00
- Top section hole diameter: 1.00
- Top section hole diameter: 10.90 ± 0.01
- Top section hole diameter: $3.40^{+0.05}_0$
- Top section hole diameter: 0.60 ± 0.005
- Top section hole diameter: 2.00 ± 0.005
- Top section hole diameter: 4.80
- Top section hole diameter: 3.00
- Top section hole diameter: $R0.50$

Top View Dimensions:

- Overall width: 15.60
- Inner width: 13.50
- Top section width: 10.00
- Top section inner width: 8.00
- Top section hole diameter: $30\text{-}\phi 11.50$
- Top section hole diameter: $10\text{-}\phi 13.50$
- Top section hole diameter: $R0.50$
- Top section hole diameter: 12.00
- Top section hole diameter: $10\text{-}\phi 12.05^{+0.05}_0$
- Top section hole diameter: 0.60
- Top section hole diameter: 3.25
- Top section hole diameter: 2.00
- Top section hole diameter: 0.00
- Top section hole diameter: 2.00

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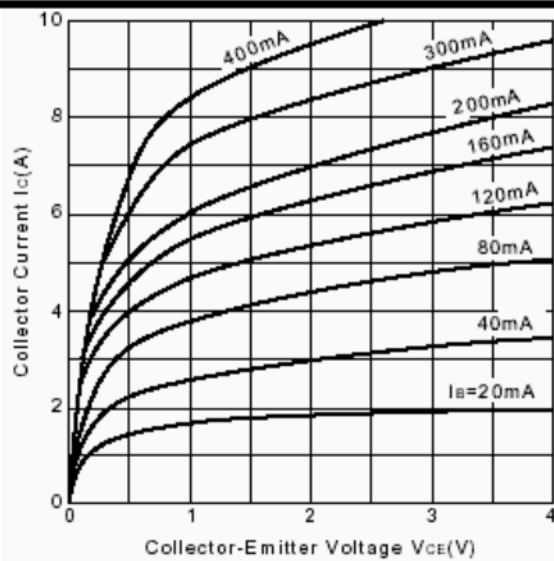


Fig.3 Static Characteristic

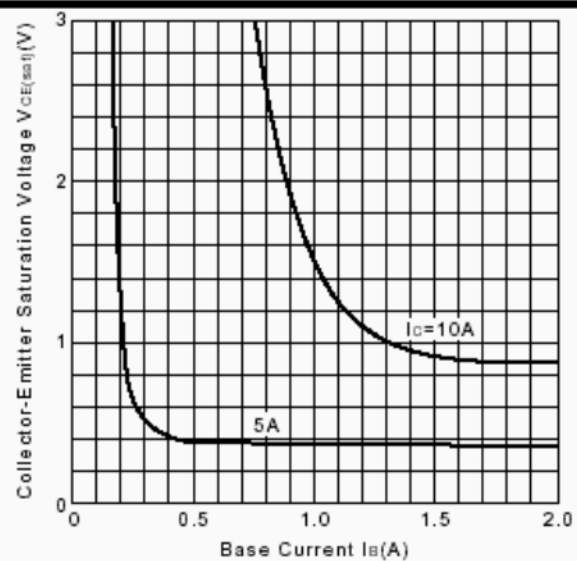
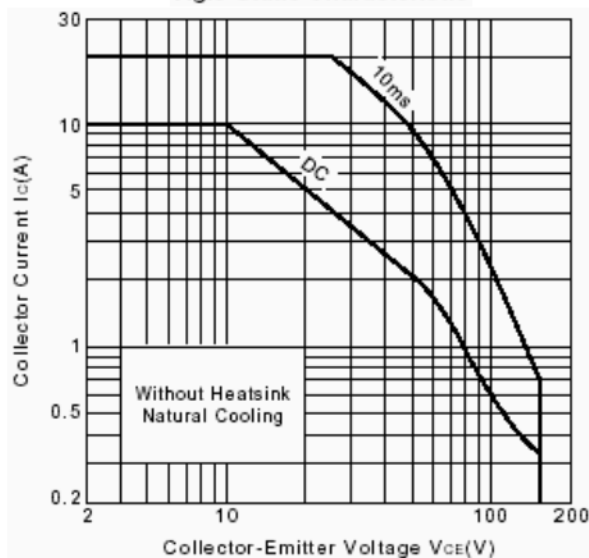
Fig.4 $V_{CE(sat)} - I_B$ 

Fig.5 Safe Operating Area

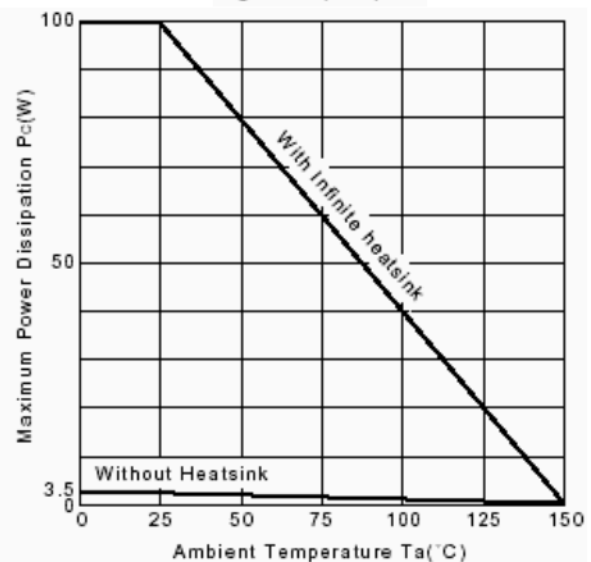


Fig.6 Power Derating

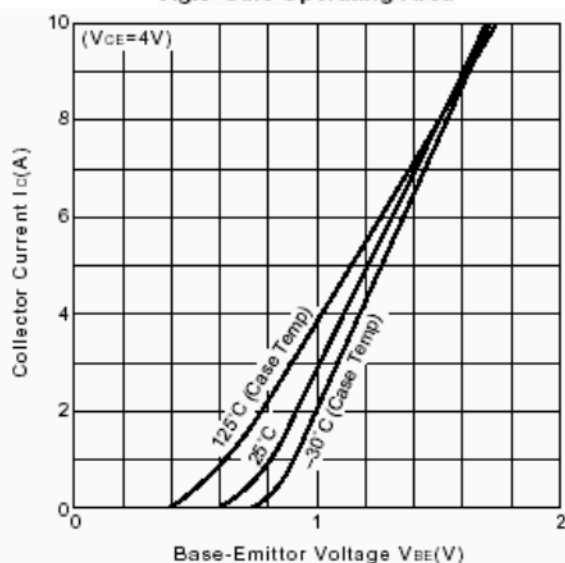
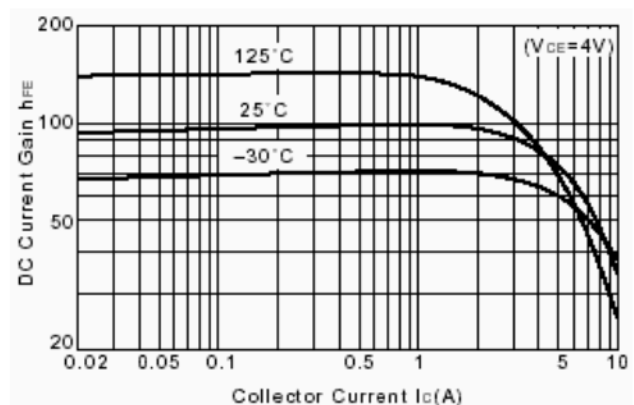
Fig.7 $I_C - V_{BE}$ 

Fig.8 DC current Gain