

TO-92

Pin Definition:

1. Emitter
2. Collector
3. Base

SOT-89

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1. Base
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3. Emitter

PRODUCT SUMMARY

BV_{CBO}	60V
BV_{CEO}	50V
I_C	3A
V_{CE(SAT)}	0.5V @ I _C / I _B = 2A / 200mA

Features

- Low V_{CE(SAT)} 0.25 @ I_C / I_B = 2A / 200mA (Typ.)
- Complementary part with TSB772S

Structure

- Epitaxial Planar Type
- NPN Silicon Transistor

Ordering Information

Part No.	Package	Packing
TSD882SCT B0	TO-92	1Kpcs / Bulk
TSD882SCT A3	TO-92	2Kpcs / Ammo
TSD882SCY RM	SOT-89	1Kpcs / 7" Reel

Absolute Maximum Rating (Ta = 25°C unless otherwise noted)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	60	V
Collector-Emitter Voltage	V _{CEO}	50	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	DC	3	A
	Pulse	7 (note)	
Collector Power Dissipation	SOT-89	0.75	W
	TO-92	0.625	
Operating Junction Temperature	T _J	+150	°C
Operating Junction and Storage Temperature Range	T _{STG}	- 55 to +150	°C

Note: Single pulse, Pw≤350us, Duty≤2%

Electrical Specifications (Ta = 25°C unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	I _C = 50uA, I _E = 0	BV _{CBO}	60	--	--	V
Collector-Emitter Breakdown Voltage	I _C = 1mA, I _B = 0	BV _{CEO}	50	--	--	V
Emitter-Base Breakdown Voltage	I _E = 50uA, I _C = 0	BV _{EBO}	5	--	--	V
Collector Cutoff Current	V _{CB} = 50V, I _E = 0	I _{CBO}	--	--	1	uA
Emitter Cutoff Current	V _{EB} = 3V, I _C = 0	I _{EBO}	--	--	1	uA
Collector-Emitter Saturation Voltage	I _C / I _B = 2A / 200mA	*V _{CE(SAT)}	--	0.25	0.5	V
Base-Emitter Saturation Voltage	I _C / I _B = 2A / 200mA	*V _{BE(SAT)}	--	--	2	V
DC Current Transfer Ratio	V _{CE} = 2V, I _C = 1A	*h _{FE}	100	--	500	
Transition Frequency	V _{CE} = 6V, I _C = 50mA, f = 100MHz	f _T	--	90	--	MHz
Output Capacitance	V _{CB} = 10V, f = 1MHz	Cob	--	45	--	pF

* Pulse Test: Pulse Width ≤380uS, Duty Cycle ≤2%

Electrical Characteristics Curve ($T_a = 25^\circ\text{C}$, unless otherwise noted)

Figure 1. DC Current Gain

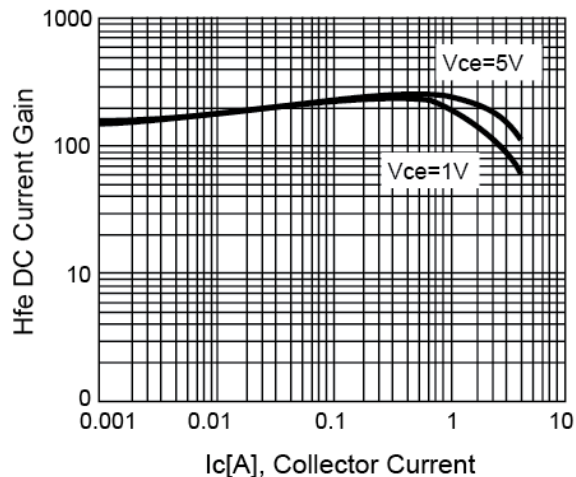


Figure 2. $V_{CE(SAT)}$ v.s. I_c

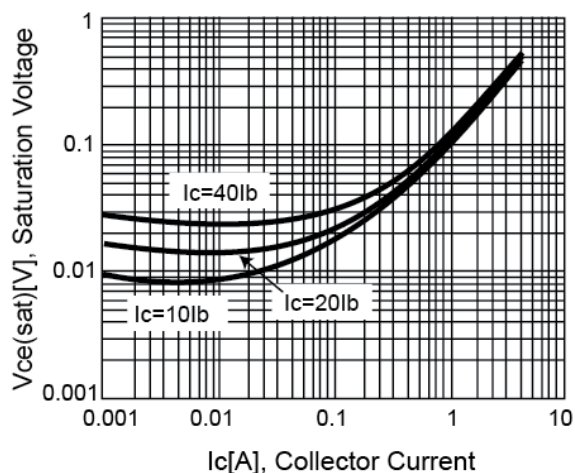


Figure 3. $V_{BE(SAT)}$ v.s. I_c

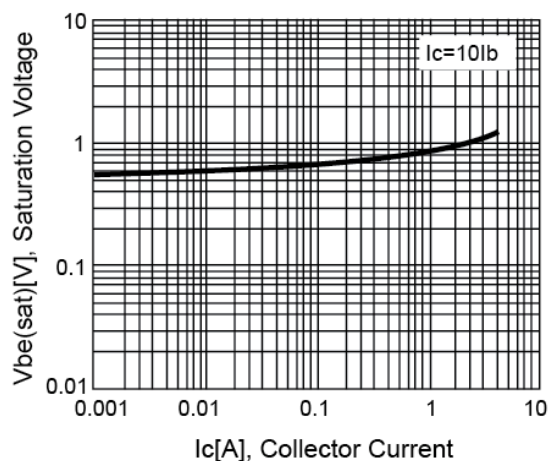
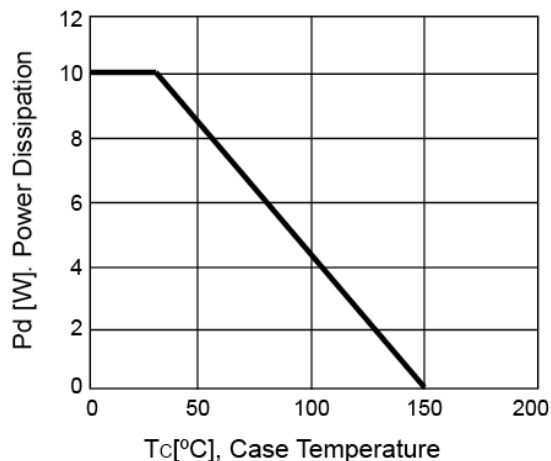
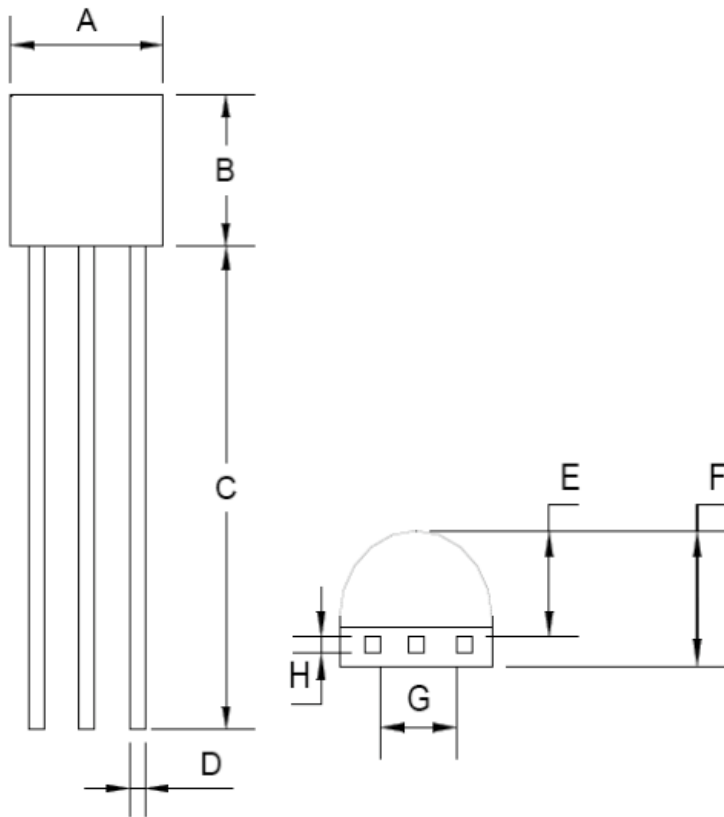


Figure 4. Power Derating Curve

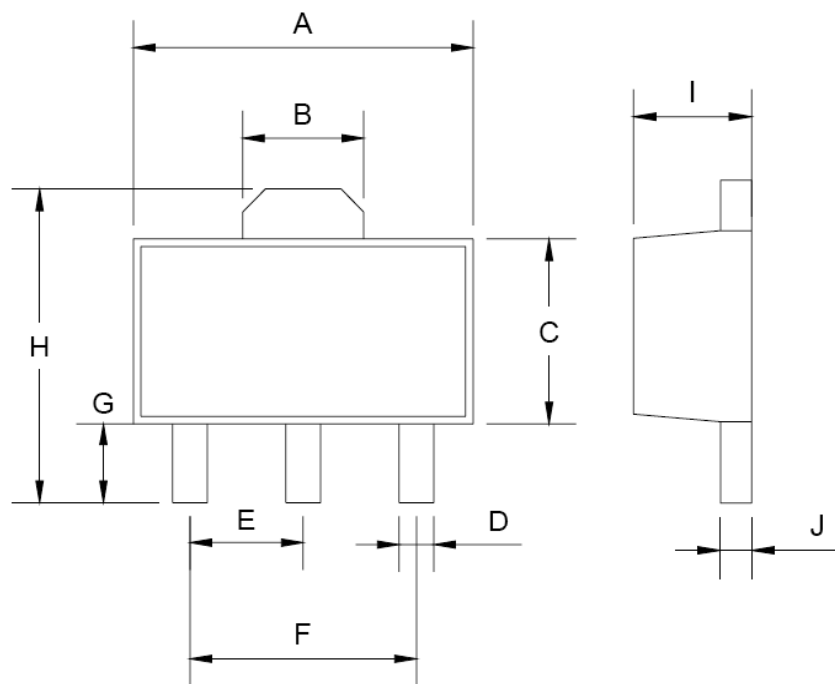


TO-92 Mechanical Drawing



TO-92 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.30	4.70	0.169	0.185
B	4.30	4.70	0.169	0.185
C	14.30(typ)		0.563(typ)	
D	0.43	0.49	0.017	0.019
E	2.19	2.81	0.086	0.111
F	3.30	3.70	0.130	0.146
G	2.42	2.66	0.095	0.105
H	0.37	0.43	0.015	0.017

SOT-89 Mechanical Drawing



SOT-89 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.40	4.60	0.173	0.181
B	1.50	1.7	0.059	0.070
C	2.30	2.60	0.090	0.102
D	0.40	0.52	0.016	0.020
E	1.50	1.50	0.059	0.059
F	3.00	3.00	0.118	0.118
G	0.89	1.20	0.035	0.047
H	4.05	4.25	0.159	0.167
I	1.4	1.6	0.055	0.068
J	0.35	0.44	0.014	0.017

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