



TSD882S

Low V_{CE(sat)} NPN Transistor

TO-92



SOT-89



Pin assignment:

TO-92

1. Emitter
2. Collector
3. Base

SOT-89

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2. Collector
3. Emitter

BV_{CEO} = 50V

I_C = 3A

V_{CE(SAT)}, = 0.3V(typ.) @I_C / I_B = 2A / 20mA

Features

- ◇ Low V_{CE(SAT)}.
- ◇ Excellent DC current gain characteristics

Structure

- ◇ Epitaxial planar type.
- ◇ Complimentary to TSB772S

Ordering Information

Part No.	Packing	Package
TSD882SCT	Bulk Pack	TO-92
TSD882SCY	Tape & Reel	SOT-89

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

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	50V	V
Collector-Emitter Voltage	V _{CEO}	50V	V
Emitter-Base Voltage	V _{EBO}	5	V
Collector Current	DC	3	A
	Pulse	7 (note 1)	
Collector Power Dissipation	TO-92	0.75	W
	SOT-89	0.50	
Operating Junction Temperature	T _J	+150	°C
Operating Junction and Storage Temperature Range	T _{STG}	- 55 to +150	°C

Note: 1. Single pulse, P_w = 350uS, Duty <= 2%

Electrical Characteristics

Ta = 25 °C unless otherwise noted

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Static						
Collector-Base Voltage	I _C = 50uA, I _E = 0	BV _{CBO}	50	--	--	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} = 40V, I _E = 0	I _{CBO}	--	--	1	uA
Emitter Cutoff Current	V _{EB} = 4V, I _C = 0	I _{EBO}	--	--	--	uA
Collector-Emitter Saturation Voltage	I _C / I _B = 2.0A / 0.2A	V _{CE(SAT)}	--	0.3	0.5	V
DC Current Transfer Ratio	V _{CE} = 2V, I _C = 1A	h _{FE}	160	--	500	
Transition Frequency	V _{CE} = 5V, I _C = 100mA, f = 100MHz	f _T	--	90	--	MHz
Output Capacitance	V _{CB} = 10V, f = 1MHz	C _{ob}		45	--	pF

Note : pulse test: pulse width <=380uS, duty cycle <=2%

Electrical Characteristics Curve

Figure 1. Current Gain vs Collector Current

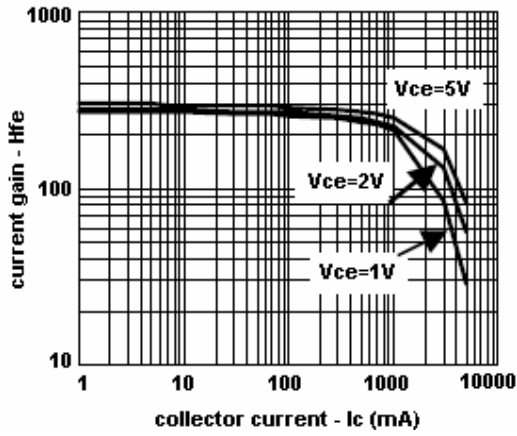


Figure 2. Saturation Voltage vs Collector Current

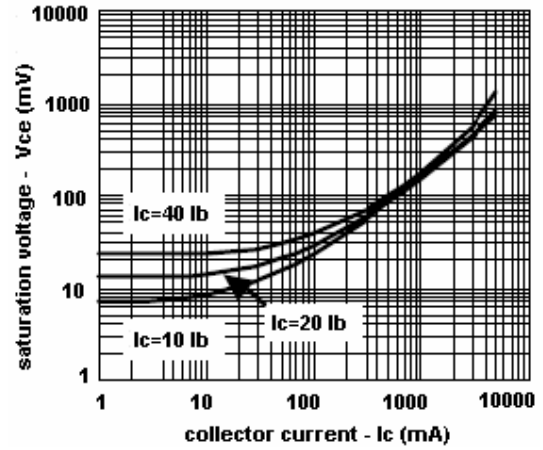


Figure 3. Saturation Voltage vs Collector Current

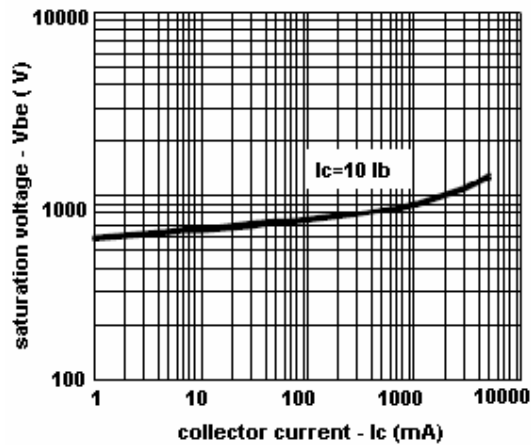
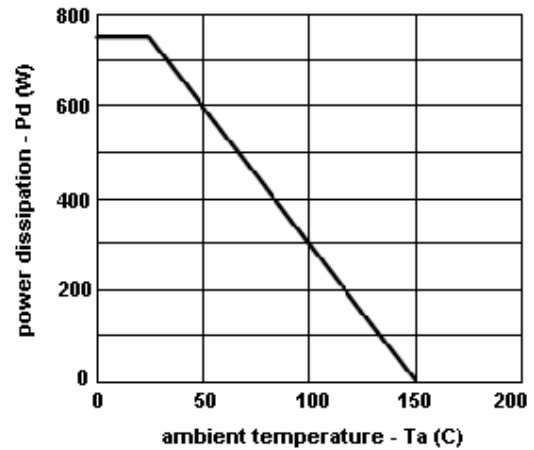
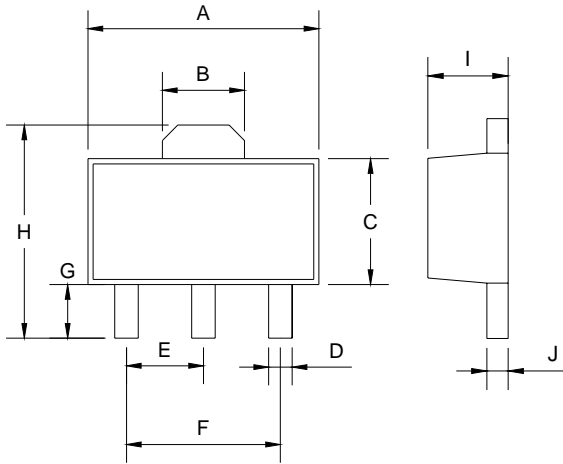


Figure 4. Power Derating Curves

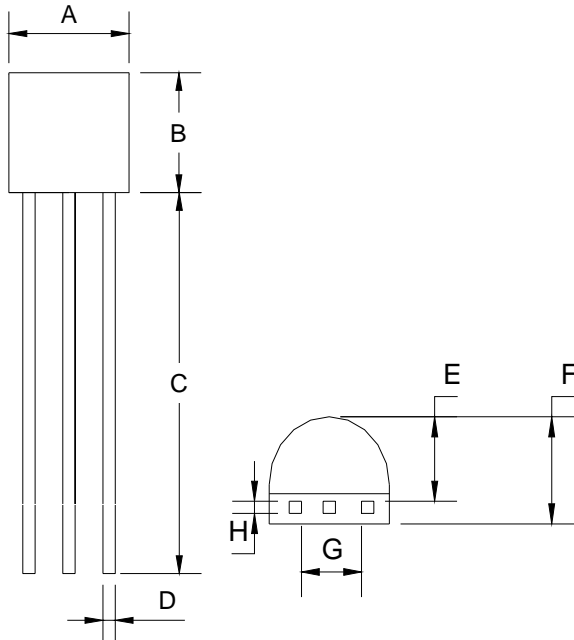


SOT-89 Mechanical Drawing



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

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