TSD882S

Low Vce(sat) NPN Transistor

TO-92

SOT-89

Pin assignment:

TO-92
1. Emitter
2. Collector
3. Base

SOT-89
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BV_{CEO} = 50V
Ic = 3A
$V_{CE\ (SAT)}$, = 0.3V(typ.) @Ic / Ib = 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	I_C	3	A
	Pulse		7 (note 1)	
Collector Power Dissipation	TO-92	P_D	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, Pw = 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	Cob		45	--	pF

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

TSC

Electrical Characteristics Curve

Figure 1. Current Gain vs Collector Current

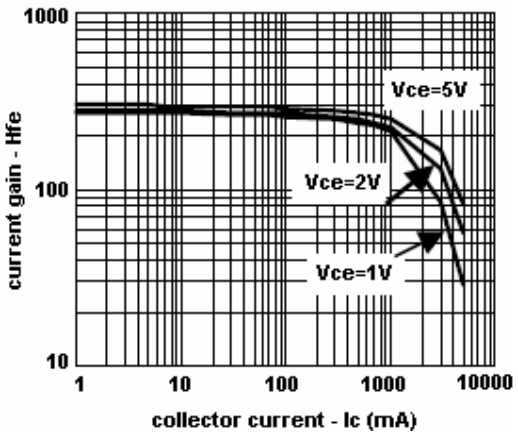


Figure 2. Saturation Voltage vs Collector Current

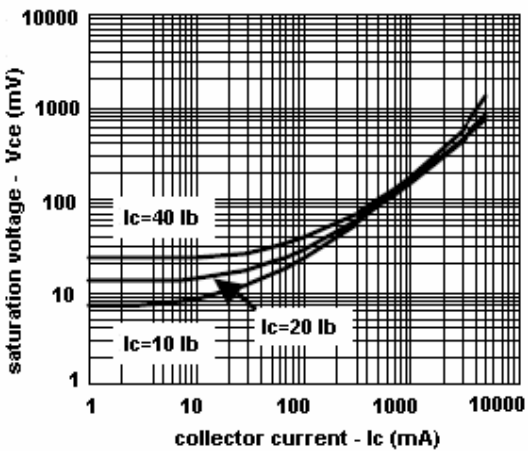


Figure 3. Saturation Voltage vs Collector Current

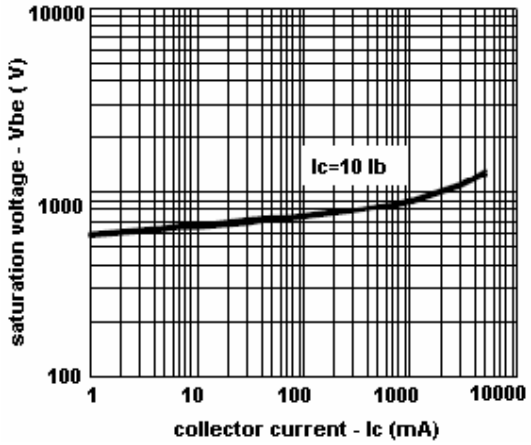
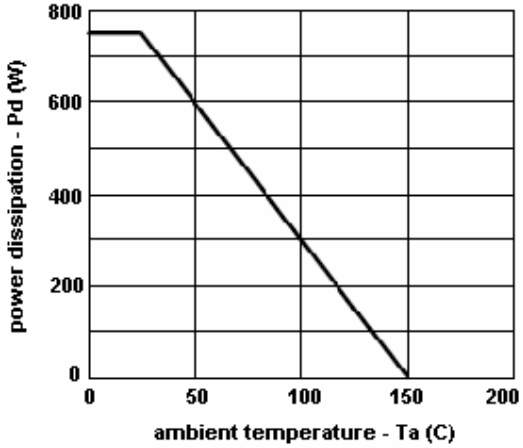


Figure 4. Power Derating Curves



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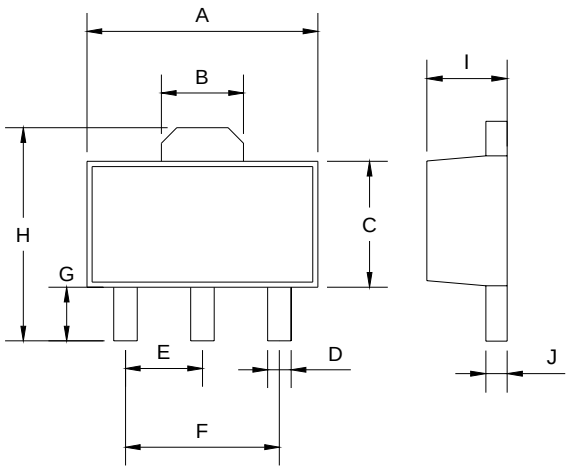
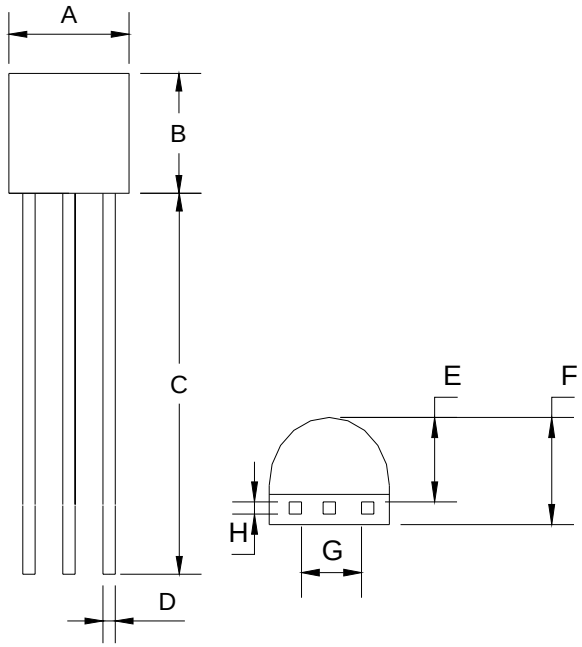
SOT-89 Mechanical Drawing



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