

TSC 		TSB772S Low Vce(sat) PNP Transistor																																													
TO-92  1 2 3		SOT-89  1 2 3	Pin assignment: TO-92 1. Emitter 2. Collector 3. Base SOT-89 1. Base 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		Ordering Information <table><tr><th>Part No.</th><th>Packing</th><th>Package</th></tr><tr><td>TSB772SCT</td><td>Bulk Pack</td><td>TO-92</td></tr><tr><td>TSB772SCY</td><td>Tape & Reel</td><td>SOT-89</td></tr></table>		Part No.	Packing	Package	TSB772SCT	Bulk Pack	TO-92	TSB772SCY	Tape & Reel	SOT-89																																			
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Structure ◇ Epitaxial planar type. ◇ PNP silicon transistor																																															
Absolute Maximum Rating (Ta = 25 °C unless otherwise noted) <table><tr><th>Parameter</th><th></th><th>Symbol</th><th>Limit</th><th>Unit</th></tr><tr><td>Collector-Base Voltage</td><td></td><td>V_{CBO}</td><td>- 50V</td><td>V</td></tr><tr><td>Collector-Emitter Voltage</td><td></td><td>V_{CEO}</td><td>- 50V</td><td>V</td></tr><tr><td>Emitter-Base Voltage</td><td></td><td>V_{EBO}</td><td>- 5</td><td>V</td></tr><tr><td rowspan="2">Collector Current</td><td>DC</td><td rowspan="2">I_C</td><td>- 3</td><td rowspan="2">A</td></tr><tr><td>Pulse</td><td>- 7 (note 1)</td></tr><tr><td rowspan="2">Collector Power Dissipation</td><td>TO-92</td><td rowspan="2">P_D</td><td>0.75</td><td rowspan="2">W</td></tr><tr><td>SOT-89</td><td>0.50</td></tr><tr><td>Operating Junction Temperature</td><td></td><td>T_J</td><td>+150</td><td>°C</td></tr><tr><td>Operating Junction and Storage Temperature Range</td><td></td><td>T_{STG}</td><td>- 55 to +150</td><td>°C</td></tr></table>				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
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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}	--	--	-1	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	--	350		
Transition Frequency	V _{CE} = - 5V, I _C = - 100mA, f = 100MHz	f _T	--	80	--	MHz	
Output Capacitance	V _{CB} = - 10V, f=1MHz	Cob		55	--	pF	

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



Electrical Characteristics Curve

Figure 1. Current Gain vs Collector Current

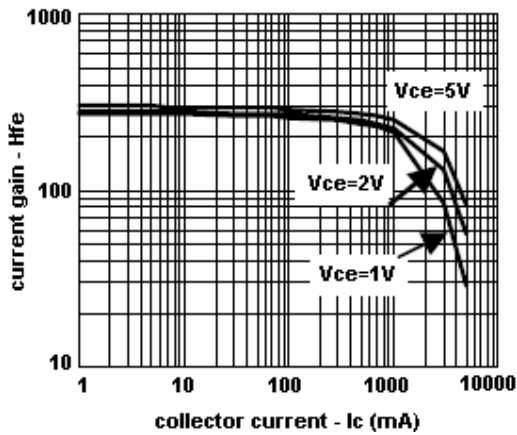


Figure 2. Saturation Voltage vs Collector Current

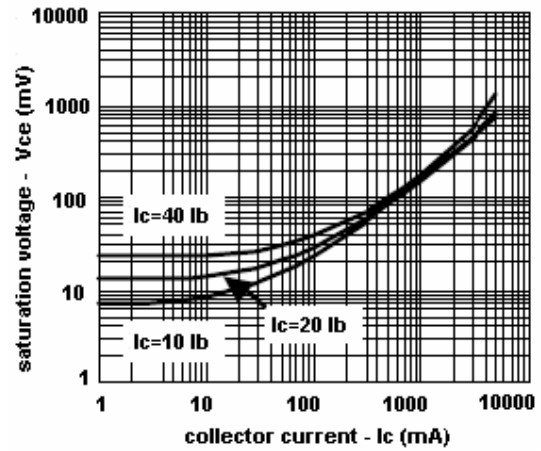


Figure 3. Saturation Voltage vs Collector Current

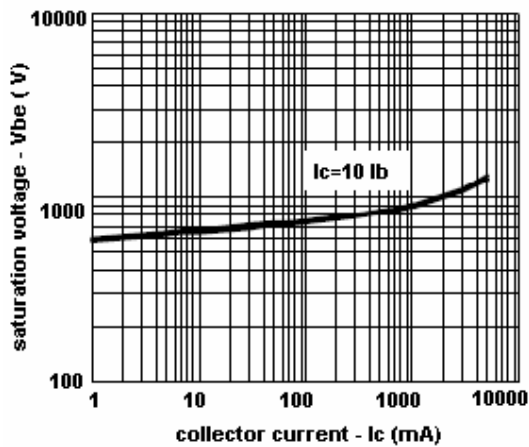
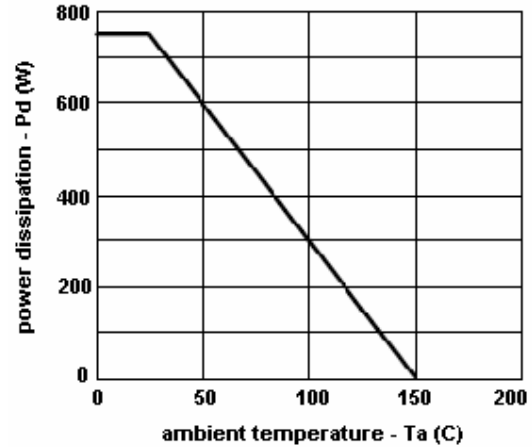
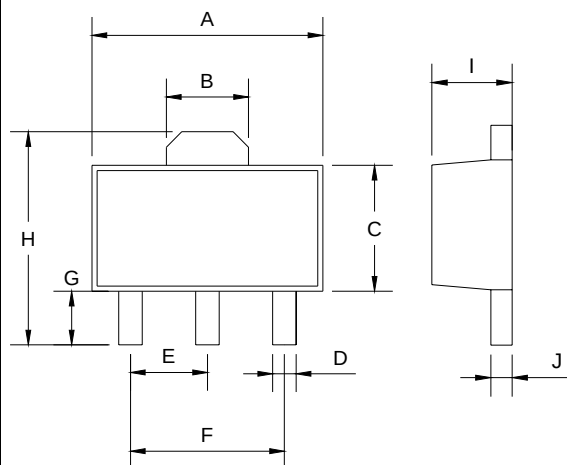


Figure 4. Power Derating Curves



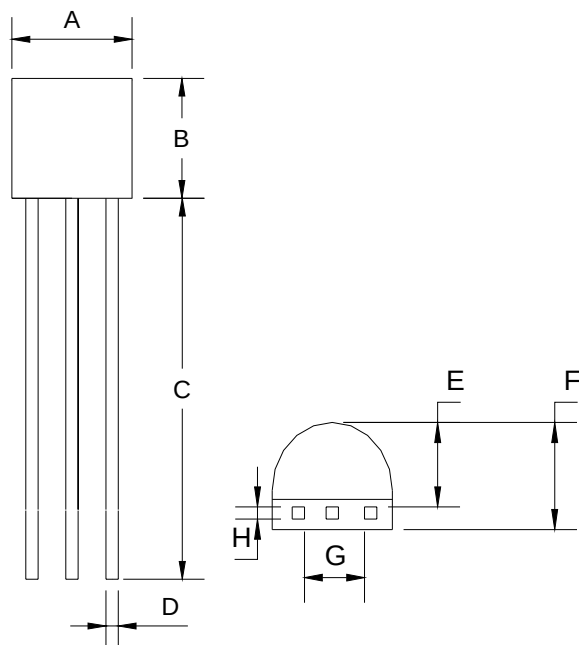


SOT-89 Mechanical Drawing



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