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TAIWAN SEMICONDUCTOR

RoHS COMPLIANCE

TSA884

PNP Silicon Planar High Voltage Transistor

SOT-23

Pin Definition:
1. Base
2. Emitter
3. Collector

PRODUCT SUMMARY

BV_{CBO}	-500V
BV_{CEO}	-500V
I_C	-150mA
$V_{CE(SAT)}$	-0.5V @ I_C / I_B = -50mA / -10mA

Features

- Low Saturation Voltages
- Excellent gain characteristics specified up to -50mA

Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

Ordering Information

Part No.	Package	Packing
TSA884CX RFG	SOT-23	3Kpcs / 7" Reel

Note: "G" denotes for Halogen Free

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

Parameter		Symbol	Limit	Unit
Collector-Base Voltage		V_{CBO}	-500	V
Collector-Emitter Voltage		V_{CEO}	-500	V
Emitter-Base Voltage		V_{EBO}	-5	V
Collector Current	DC	I_C	-150	mA
	Pulse		-500	
Total Power Dissipation		P_{TOT}	0.3	W
Operating Junction Temperature		T_J	+150	°C
Operating Junction and Storage Temperature Range		T_{STG}	- 55 to +150	°C

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

Parameter	Conditions	Symbol	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	I_C = -100uA, I_E = 0	BV_{CBO}	-500	--	--	V
Collector-Emitter Breakdown Voltage	I_C = -10mA, I_B = 0	BV_{CEO}	-500	--	--	V
Emitter-Base Breakdown Voltage	I_E = -100uA, I_C = 0	BV_{EBO}	-5	--	--	V
Collector Cutoff Current	V_{CB} = 120V, I_E = 0	I_{CBO}	--	--	-100	nA
Emitter Cutoff Current	V_{EB} = 6V, I_C = 0	I_{EBO}	--	--	-100	nA
Collector-Emitter Saturation Voltage	I_C = -20mA, I_B = -2mA	$V_{CE(SAT)}$ 1	--	--	-0.2	V
	I_C = -50mA, I_B = -10mA	$V_{CE(SAT)}$ 2		--	-0.5	
Base-Emitter Saturation Voltage	I_C = -50mA, I_B = -10mA	$V_{BE(SAT)}$	--	--	-0.9	V
Base-Emitter on Voltage	V_{CE} = -10V, I_C = -50mA	$V_{BE(ON)}$	--	--	-0.9	V
DC Current Transfer Ratio	V_{CE} = -10V, I_C = -1mA	h_{FE} 1	150	--	300	
	V_{CE} = -10V, I_C = -50mA	h_{FE} 2	80	--	300	
	V_{CE} = -10V, I_C = -100mA	h_{FE} 3	--	15	--	
Transition Frequency	V_{CE} =10V, I_C=-100mA	f_T	--	50	--	MHz
Output Capacitance	V_{CB} = 20V, f=1MHz	Cob	--	--	8	pF
Turn On Time	V_{CE} = -100V, I_C = -50mA	Ton	--	110	--	nS
Turn Off Time	I_{B1}=-5mA, I_{B2}=-10mA	Toff	--	1500	--	nS

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Electrical Characteristics Curve (Ta = 25°C, unless otherwise noted)

Figure 1. Static Characteristics

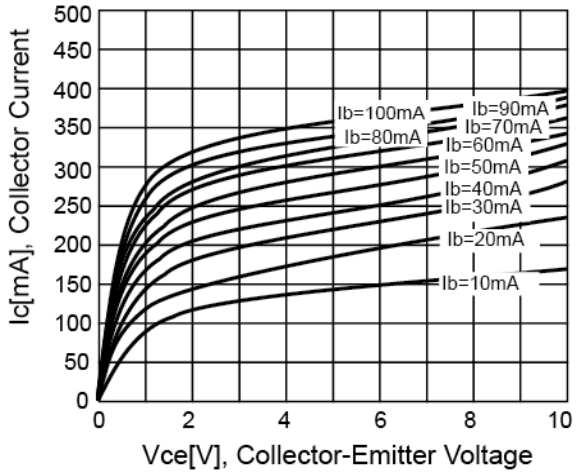


Figure 2. DC Current Gain

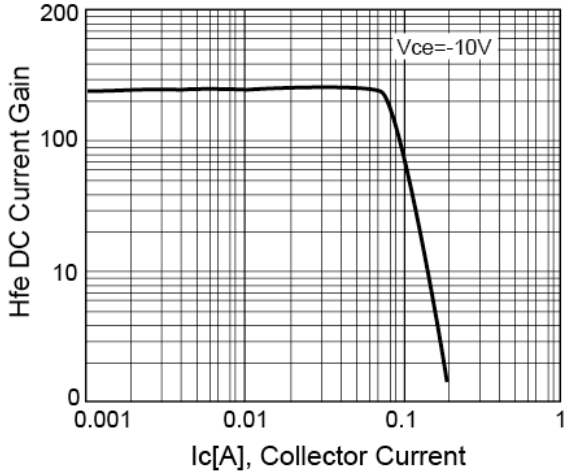


Figure 3. $V_{CE(SAT)}$ v.s. $V_{BE(SAT}$

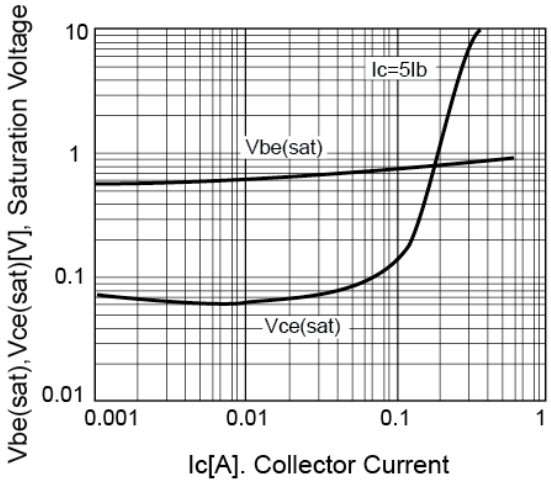
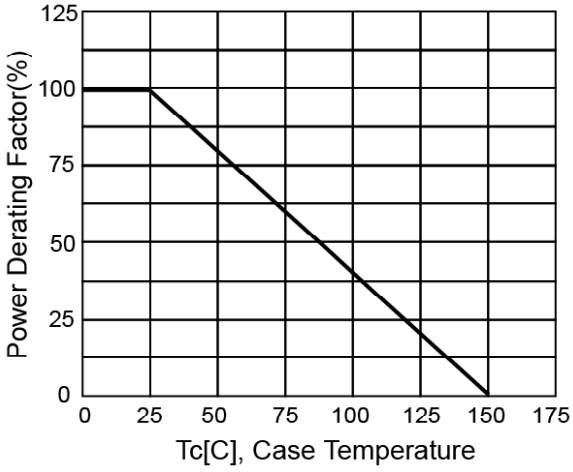


Figure 4. Power Derating



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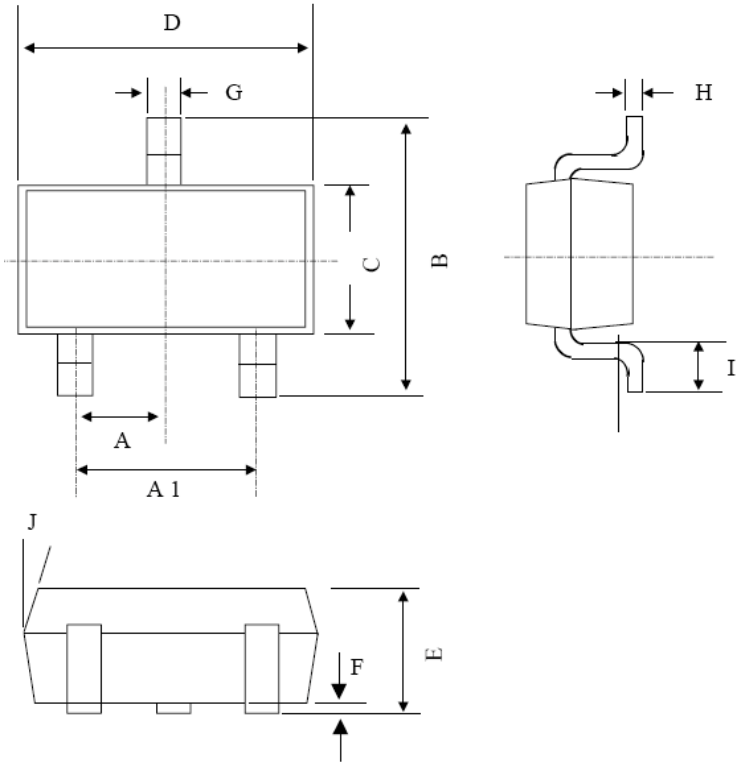
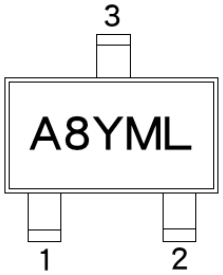
SOT-23 Mechanical Drawing



SOT-23 DIMENSION				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX.
A	0.95 BSC		0.037 BSC	
A1	1.9 BSC		0.074 BSC	
B	2.60	3.00	0.102	0.118
C	1.40	1.70	0.055	0.067
D	2.80	3.10	0.110	0.122
E	1.00	1.30	0.039	0.051
F	0.00	0.10	0.000	0.004
G	0.35	0.50	0.014	0.020
H	0.10	0.20	0.004	0.008
I	0.30	0.60	0.012	0.024
J	5º	10º	5º	10º

Marking Diagram



A8 = Device Code
Y = Year Code
M = Month Code for Halogen Free Product

O	=Jan	**P**	=Feb	**Q**	=Mar	**R**	=Apr
S	=May	**T**	=Jun	**U**	=Jul	**V**	=Aug
W	=Sep	**X**	=Oct	**Y**	=Nov	**Z**	=Dec

L = Lot Code

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