



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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SOT-223



Pin Definition:

1. Base
2. Collector
3. Emitter

Features

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

Structure

- Epitaxial Planar Type
- PNP Silicon Transistor

PRODUCT SUMMARY

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

Ordering Information

Part No.	Package	Packing
TSA874CW RPG	SOT-223	2.5Kpcs / 13" 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	-150	mA
	Pulse	-500	
Total Power Dissipation	P_{tot}	1	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	$I_C = -100\mu A, I_E = 0$	BV_{CBO}	-500	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	BV_{CEO}	-500	--	--	V
Emitter-Base Breakdown Voltage	$I_E = -100\mu A, I_C = 0$	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	$V_{CB} = 20V, f = 1MHz$	C_{ob}	--	--	8	pF
Turn On Time	$V_{CE} = -100V, I_C = -50mA$	T_{on}	--	110	--	nS
Turn Off Time	$I_{B1} = -5mA, I_{B2} = -10mA$	T_{off}	--	1500	--	nS

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

Figure 1. Static Characteristics

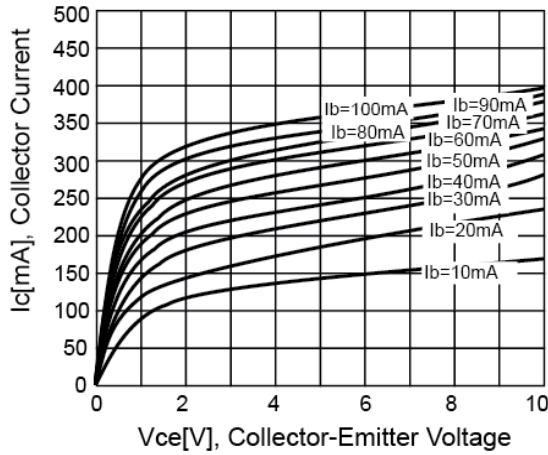


Figure 2. DC Current Gain

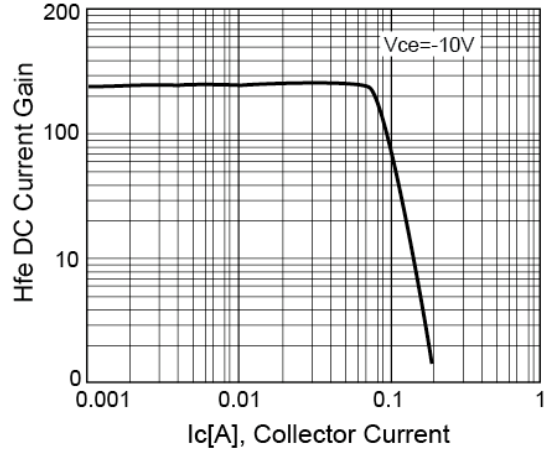


Figure 3. VCE(SAT) v.s. VBE(SAT)

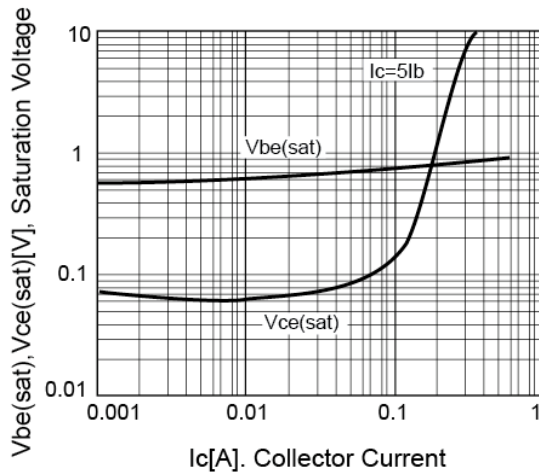


Figure 4. Power Derating

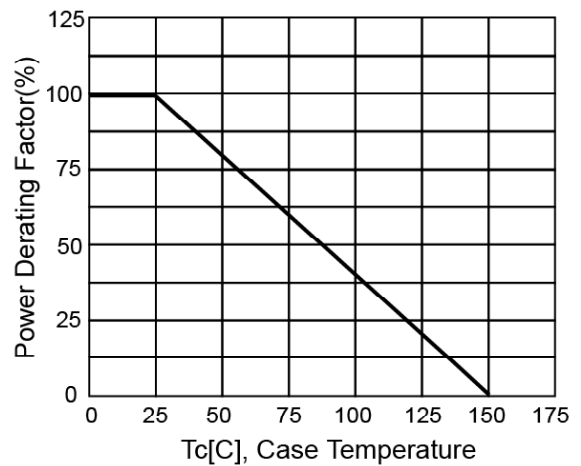
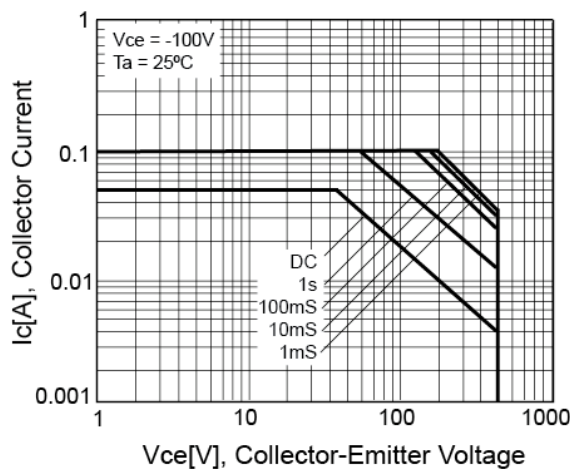
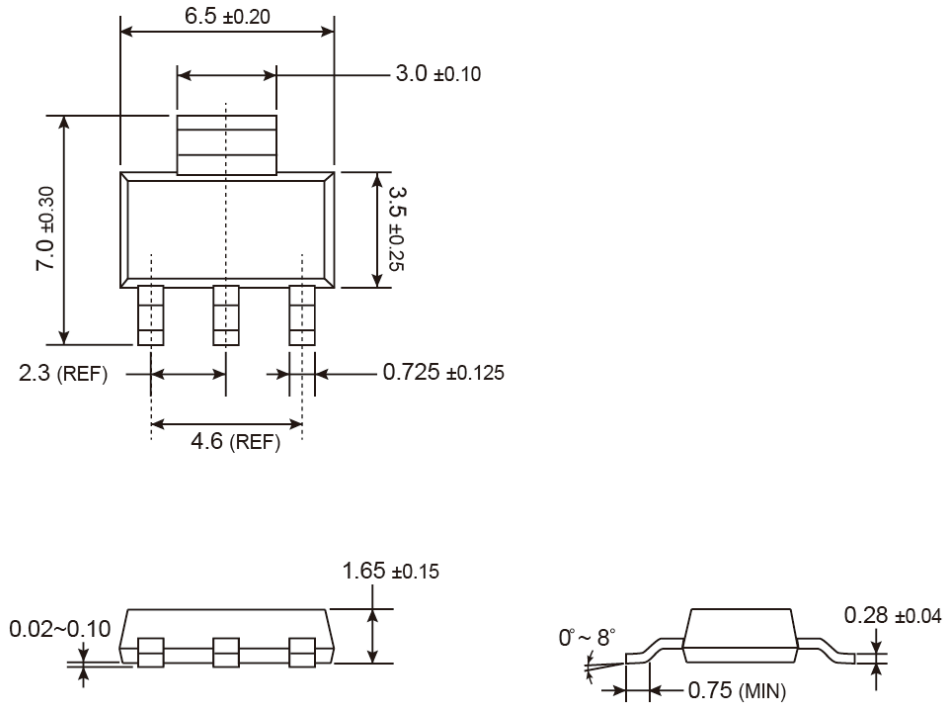


Figure 5. Safety Operation Area

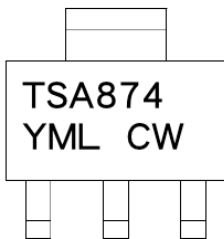


SOT-223 Mechanical Drawing



Unit: Millimeters

Marking Diagram



- 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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