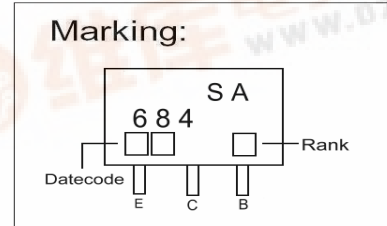
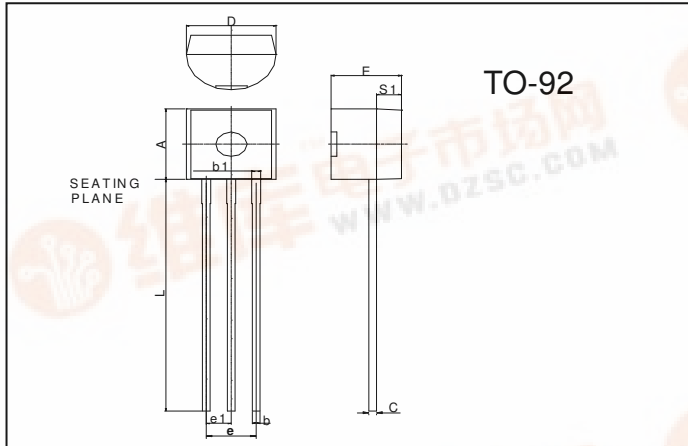


GTM**CORPORATION**ISSUED DATE :2003/10/24
REVISED DATE :2004/11/29**GSA684****PNP EPITAXIAL PLANAR TRANSISTOR****Description**

The GSA684 is designed for power amplifier and driver.

Features*Low collector to emitter saturation voltage $V_{CE(sat)}$.

*Complementary pair with GSC1384

Package Dimensions

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	4.45	4.7	D	4.44	4.7
S1	1.02	-	E	3.30	3.81
b	0.36	0.51	L	12.70	-
b1	0.36	0.76	e1	1.150	1.390
C	0.36	0.51	e	2.42	2.66

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$, unless otherwise specified)

Parameter		Ratings	Unit
Collector to Base Voltage	V_{CBO}	-60	V
Collector to Emitter Voltage	V_{CEO}	-50	V
Emitter to Base Voltage	V_{EBO}	-5	V
Collect Current (DC)	I_C	-1	A
Collect Current* (Pulse)	I_{CP}	-1.5	A
Junction Temperature	T_j	+150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$
Total Power Dissipation	P_D	1	W

ELECTRICAL Characteristics ($T_a = 25^\circ\text{C}$, unless otherwise specified)

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V_{CBO}	-60	-	-	V	$I_C = -10\mu\text{A}, I_E = 0$
V_{CEO}	-50	-	-	V	$I_C = -2\text{mA}, I_B = 0$
V_{EBO}	-5	-	-	V	$I_E = -10\mu\text{A}, I_C = 0$
I_{CBO}	-	-	-0.1	μA	$V_{CB} = -20\text{V}, I_E = 0$
$V_{CE(sat)}$	-	-200	-400	mV	$I_C = -0.5\text{A}, I_B = -50\text{mA}(\text{note})$
$V_{BE(sat)}$	-	-0.85	-1.2	V	$I_C = -0.5\text{A}, I_B = -50\text{mA}(\text{note})$
* h_{FE1}	85	160	340		$V_{CE} = -10\text{V}, I_C = -500\text{mA}(\text{note})$
* h_{FE2}	50	100	-		$V_{CE} = -5\text{V}, I_C = -1\text{A}(\text{note})$
f_T	-	200	-	MHz	$V_{CE} = -10\text{V}, I_B = -50\text{mA}, f = 200\text{MHz}$
C_{ob}	-	11	20	pF	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$

Note: Pulse measurement

Classification Of h_{FE1}

Rank	Q	R	S
Range	85-170	120-240	170-340

Important Notice:

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of GTM.
- GTM reserves the right to make changes to its products without notice.
- GTM semiconductor products are not warranted to be suitable for use in life-support Applications, or systems.
- GTM assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

Head Office And Factory:

Taiwan: No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.

TEL: 886-3-597-7061 FAX: 886-3-597-9220, 597-0785

China: (201203) No.255, Jang-Jiang Tsai-Lueng RD., Pu-Dung-Hsin District, Shang-Hai City, China

TEL: 86-21-5895-7671 ~ 4 FAX: 86-21-38950165

