



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92 Plastic-Encapsulate Transistors

2SC1674 TRANSISTOR (NPN)

FEATURE

Power dissipation

$$P_{CM} : 0.25 \text{ W (Tamb=25°C)}$$

Collector current

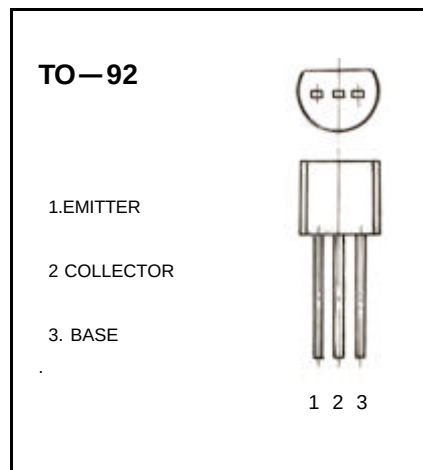
$$I_{CM} : 0.02 \text{ A}$$

Collector-base voltage

$$V_{(BR)CBO} : 30 \text{ V}$$

Operating and storage junction temperature range

$$T_J, T_{stg}: -55^\circ\text{C to } +150^\circ\text{C}$$



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu\text{A}, I_E = 0$	30		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 \text{ mA}, I_B = 0$	20		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu\text{A}, I_C = 0$	4		V
Collector cut-off current	I_{CBO}	$V_{CB} = 30\text{V}, I_E = 0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 3\text{V}, I_C = 0$		0.1	μA
DC current gain	h_{FE}	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$	40	240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 10 \text{ mA}, I_B = 1 \text{ mA}$		0.3	V
Base-emitter voltage	$V_{BE(ON)}$	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$		0.72	V
Transition frequency	f_T	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$	400		MHz
Collector output capacitance	C_{ob}	$V_{CE} = 6\text{V}, I_E = 0, f = 1\text{MHz}$		1.5	pF
Noise figure	NF	$V_{CE} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}, R_S = 50 \Omega$		5	dB
Power gain	G_P	$V_{CE} = 6\text{V}, I_C = 1\text{mA}, f = 100\text{MHz}$	18		dB

CLASSIFICATION OF $h_{FE(1)}$

Rank	Y	GR	BL
Range	40-80	60-120	90-180

Typical Characteristics

2SC1674

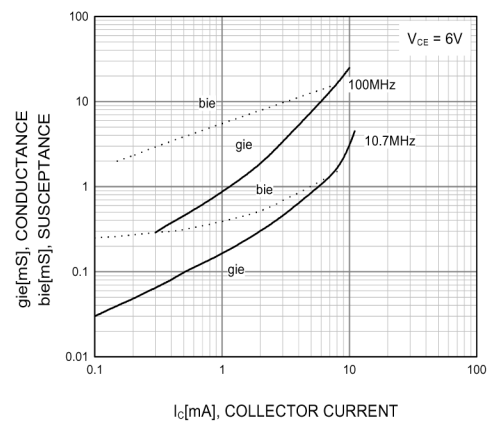


Figure 7. Input Admittance (yie) vs. Collector Current

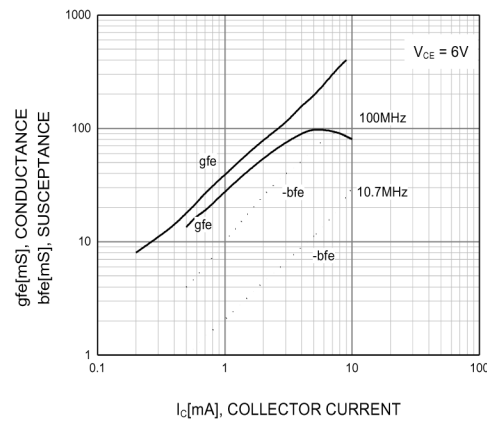


Figure 8. Forward Transfer Admittance (yfe) vs. Collector Current

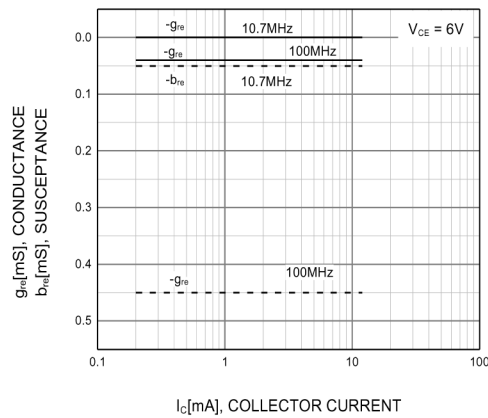


Figure 9. Reverse Transfer Admittance (yre) vs. Collector Current

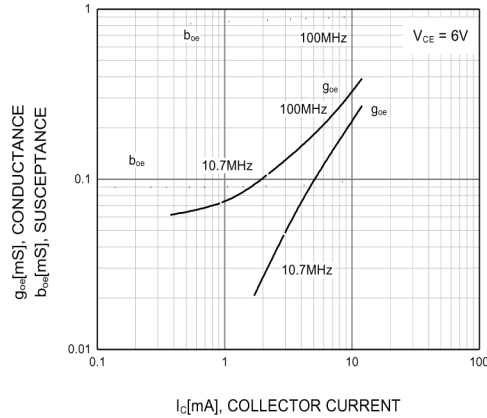


Figure 10. Output Admittance (yoe) vs. Collector Current

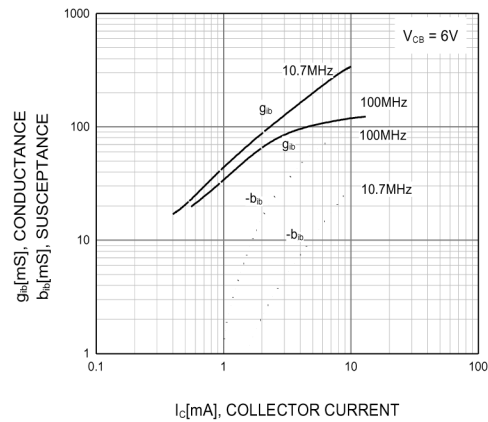


Figure 11. Input Admittance (yib) vs. Collector Current

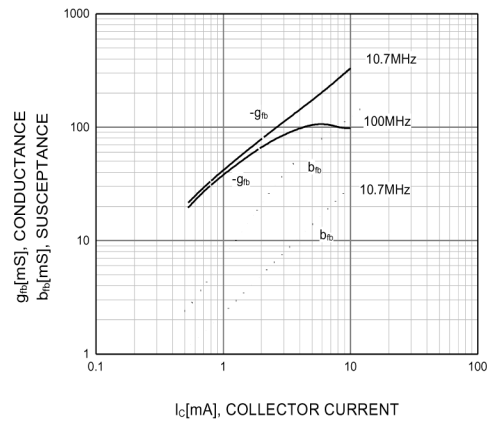


Figure 12. Forward Transfer Admittance (yfb) vs. Collector Current

Typical Characteristics

2SC1674

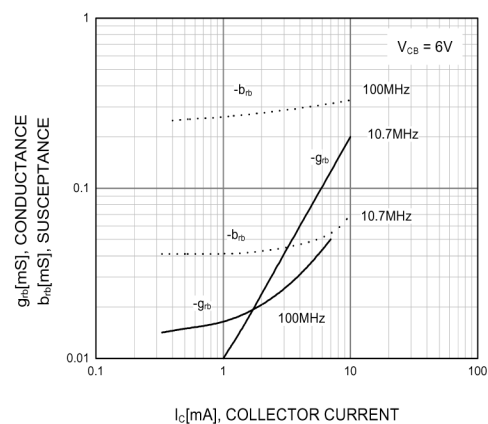


Figure 13. Reverse Transfer Admittance (yrb) vs. Collector Current

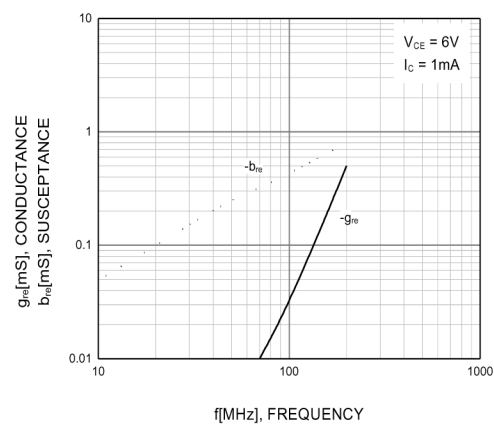


Figure 14. Reverse Transfer Admittance (yre) vs. Frequency

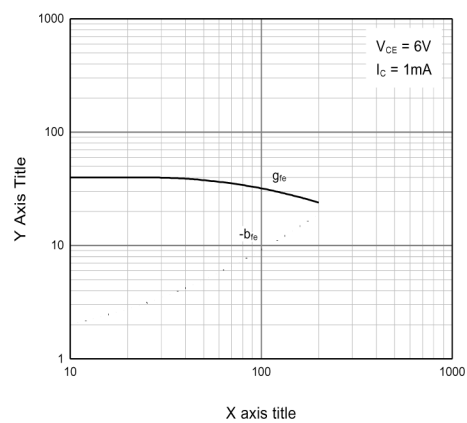


Figure 15. Forward Transfer Admittance (yfe) vs. Frequency

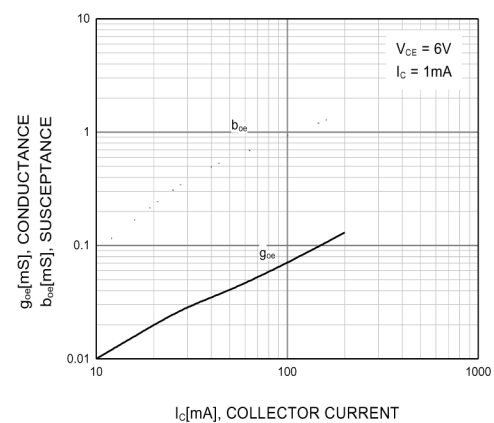


Figure 16. Output Admittance (yoe) vs. Frequency

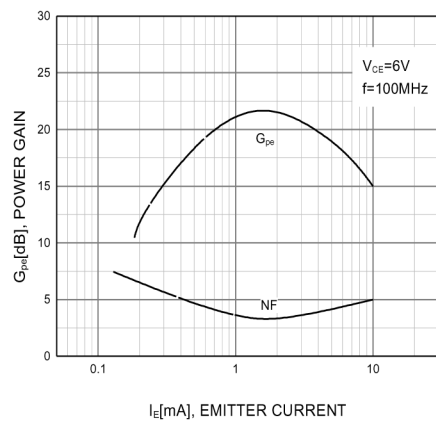


Figure 17. Power Gain and Noise Figure vs. Emitter Current

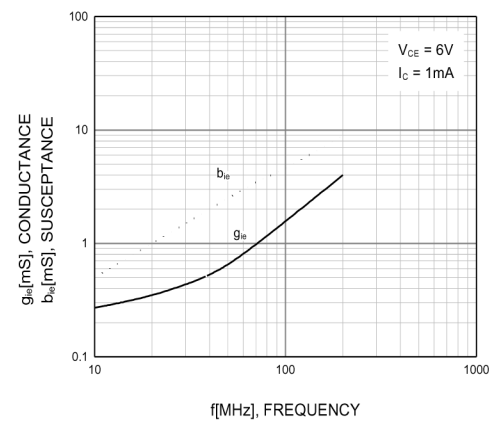
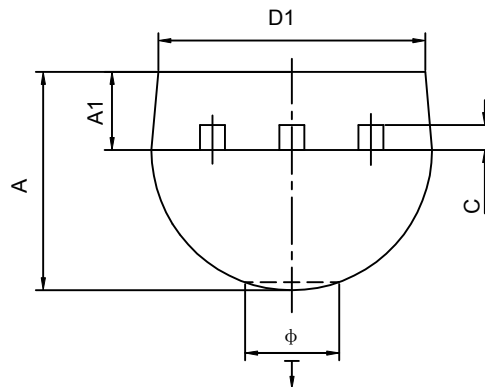
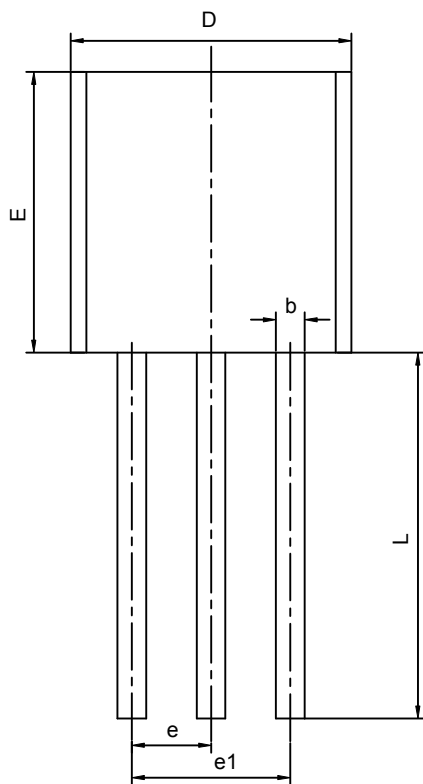


Figure 18. Input Admittance (yie) vs. Frequency

TO-92 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.400	4.700	0.173	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270TYP		0.050TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Ö		1.600		0.063
$\downarrow$	0.000	0.380	0.000	0.015