



**SOT-523 Plastic-Encapsulate Transistors**

**2SA1774** TRANSISTOR (PNP)

**FEATURES**

Power dissipation

$$P_{CM} : 0.15 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM} : -0.15 \text{ A}$$

Collector-base voltage

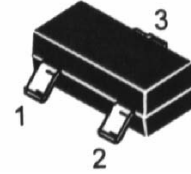
$$V_{(BR)CBO} : -60 \text{ V}$$

Operating and storage junction temperature range

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

**SOT-523**

- 1. BASE
- 2. EMITTER
- 3. COLLECTOR



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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-50\mu A, I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1mA, I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-50\mu A, I_C=0$	-7			V
Collector cut-off current	$I_{CBO}$	$V_{CB}=-60V, I_E=0$			-0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB}=-6V, I_C=0$			-0.1	$\mu A$
DC current gain	$h_{FE(1)}$	$V_{CE}=-6V, I_C=-1mA$	120		560	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-50mA, I_B=-5mA$			-0.5	V
Transition frequency	$f_T$	$V_{CE}=-12V, I_C=-2mA, f=30MHz$		140		MHz
Collector output capacitance	$C_{ob}$	$V_{CB}=-12V, I_E=0, f=1MHz$			5	pF

**CLASSIFICATION OF  $h_{FE(1)}$**

Rank	Q	R	S
Range	120-270	180-390	270-560
Marking	FQ	FR	FS

# Typical Characteristics

# 2SA1774

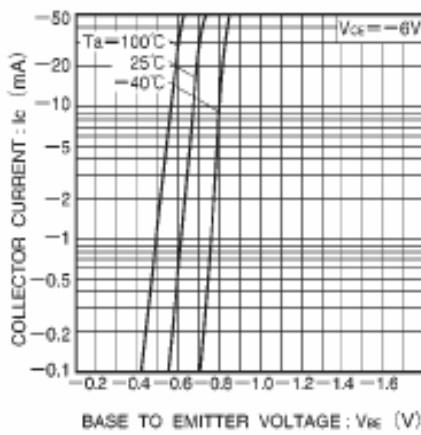


Fig.1 Grounded emitter propagation characteristics

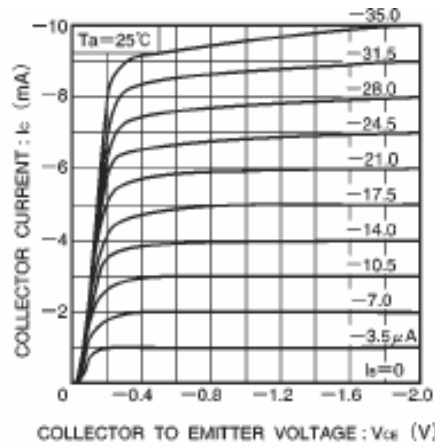


Fig.2 Grounded emitter output characteristics ( I )

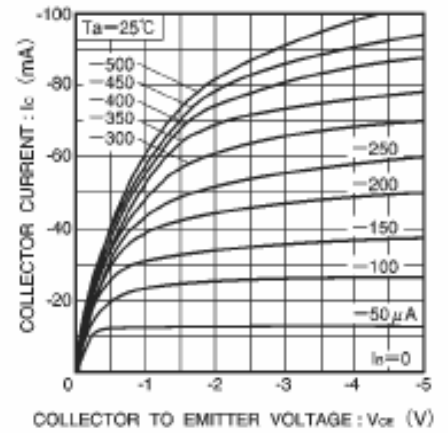


Fig.3 Grounded emitter output characteristics ( II )

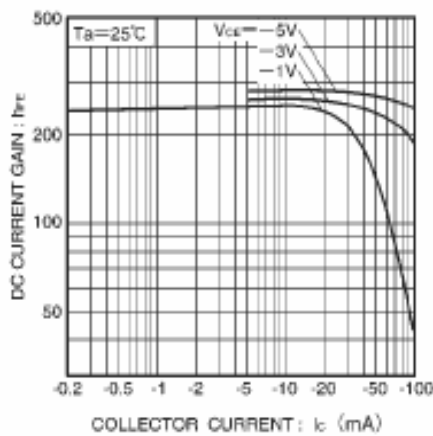


Fig.4 DC current gain vs. collector current ( I )

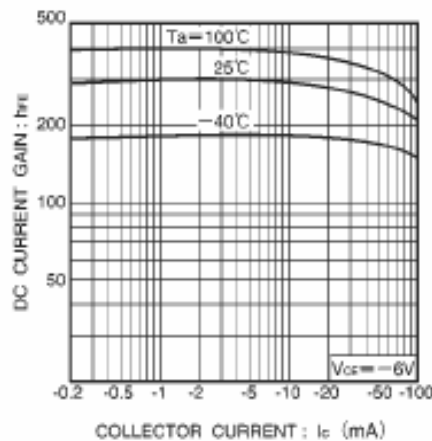


Fig.5 DC current gain vs. collector current ( II )

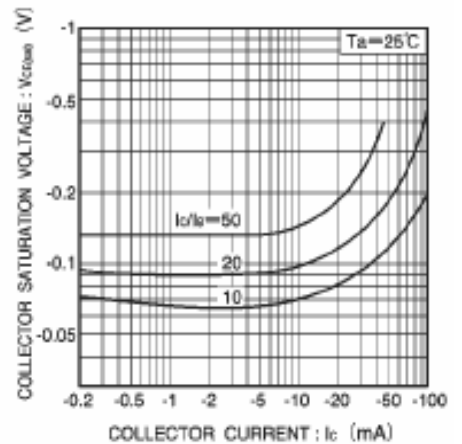


Fig.6 Collector-emitter saturation voltage vs. collector current ( I )

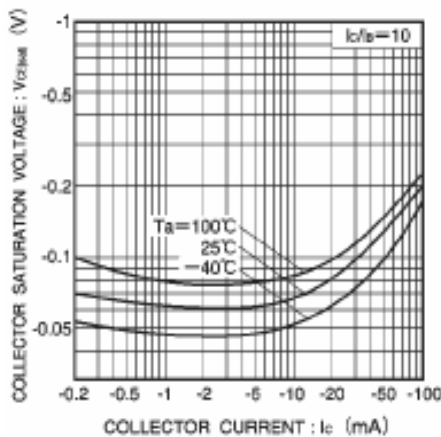


Fig.7 Collector-emitter saturation voltage vs. collector current ( II )

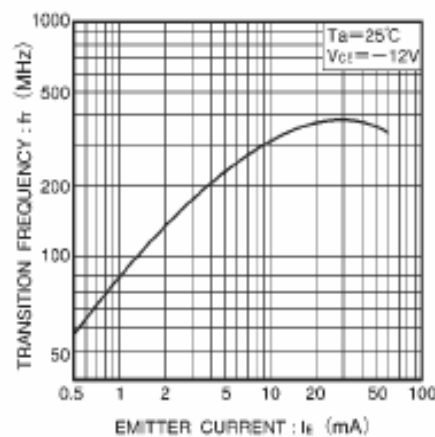


Fig.8 Gain bandwidth product vs. emitter current

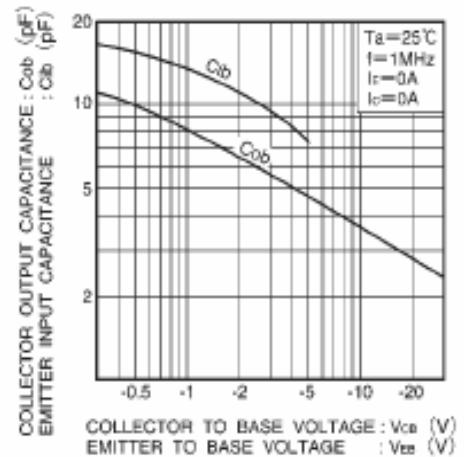


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage