

## PNP General Purpose Transistor

## 2SA1774

### FEATURES

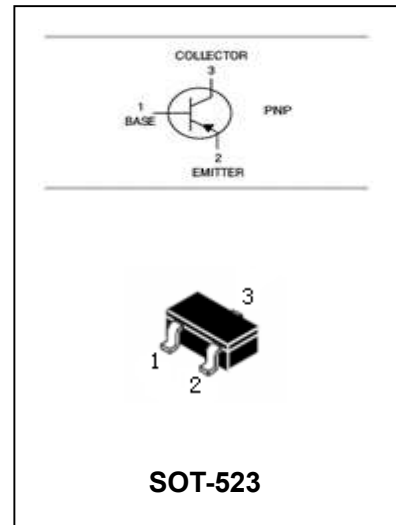
- Excellent  $h_{FE}$  linearity.
- Complementary NPN type available (2SC4617).
- MSL 1



Lead-free

### APPLICATIONS

- Epitaxial planar type.
- PNP silicon transistor.



### ORDERING INFORMATION

Type No.	Marking	Package Code
2SA1774	FQ/FR/FS	SOT-523

### MAXIMUM RATING @ $T_a=25^{\circ}\text{C}$ unless otherwise specified

Symbol	Parameter	Limits	Unit
$V_{CBO}$	collector-base voltage	-60	V
$V_{CEO}$	collector-emitter voltage	-50	V
$V_{EBO}$	emitter-base voltage	-6	V
$I_C$	collector current	-150	mA
$P_d$	Power dissipation	150	mW
$R_{\theta JA}$	Thermal resistance, junction to Ambient	833	$^{\circ}\text{C}/\text{W}$
$T_{stg}$	storage temperature range	-55 to +150	$^{\circ}\text{C}$
$T_j$	junction temperature	150	$^{\circ}\text{C}$

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### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN.	Typ.	MAX.	UNIT
$V_{(BR)CBO}$	Collector-base breakown voltage	$I_C=-50\mu A, I_E=0$	-60			
$V_{(BR)CEO}$	Collector- emitter breakown voltage	$I_C=-1\mu A, I_B=0$	-50			
$V_{(BR)BEO}$	Emitter-base breakown voltage	$I_E=-50\mu A, I_C=0$	-6			
$I_{CBO}$	Collector cut-off current	$I_E=0, V_{CB}=-60V$			-0.1	$\mu A$
$I_{EBO}$	Emitter cut-off current	$I_C=0, V_{EB}=-6V$			-0.1	$\mu A$
$h_{FE}$	DC current gain	$V_{CE}=-6V, I_C=-1mA$	120		560	
$V_{CE(sat)}$	collector-emitter saturation voltage	$I_C=-50mA, I_B=-5mA$			-0.5	V
$C_{obo}$	Output capacitance	$I_E=0, V_{CB}=-12V, f=1MHz$		4.0	5.0	pF
$f_T$	transition frequency	$I_C=-2mA, V_{CE}=-12V, f=30MHz$		140		MHz

### CLASSIFICATION OF $h_{FE}$

RANK	Q	R	S
RANGE	120-270	180-390	270-560
MARKING	FQ	FR	FS

### TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

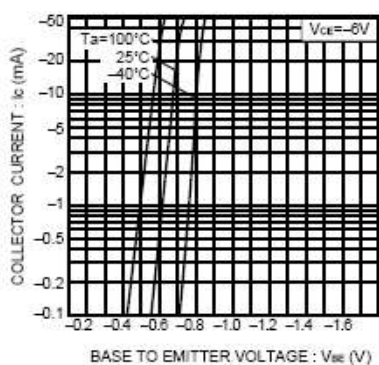


Fig.1 Grounded emitter propagation characteristics

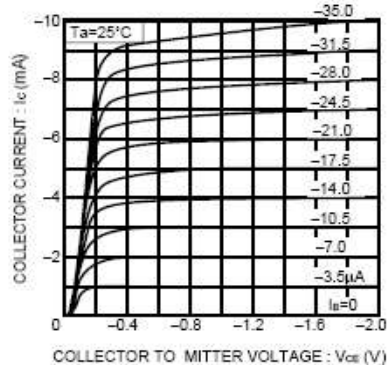


Fig.2 Grounded emitter output characteristics (I)

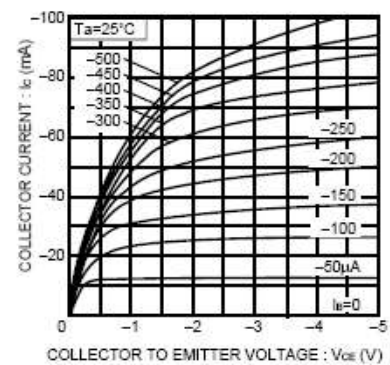


Fig.3 Grounded emitter output characteristics (II)

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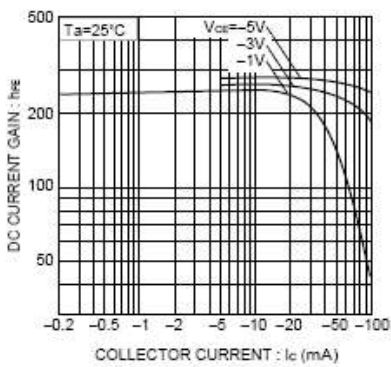


Fig.4 DC current gain vs. collector current (I)

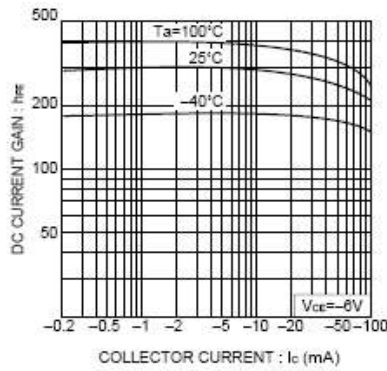


Fig.5 DC current gain vs. collector current (II)

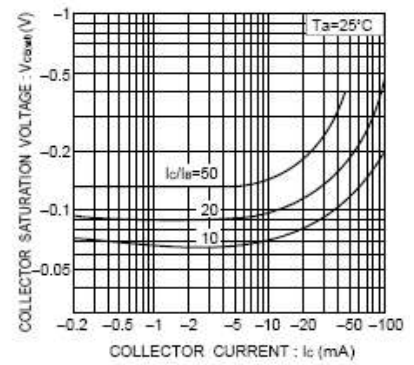


Fig.6 Collector-emitter saturation voltage vs. collector current (I)

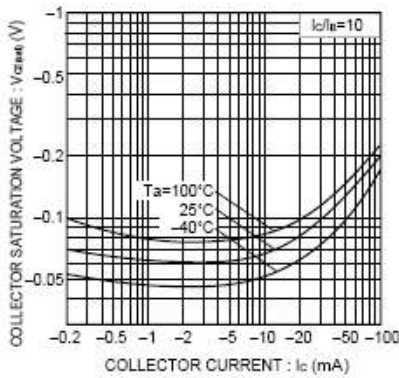


Fig.7 Collector-emitter saturation voltage vs. collector current (II)

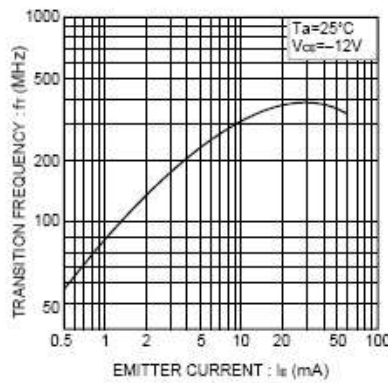


Fig.8 Gain bandwidth product vs. emitter current

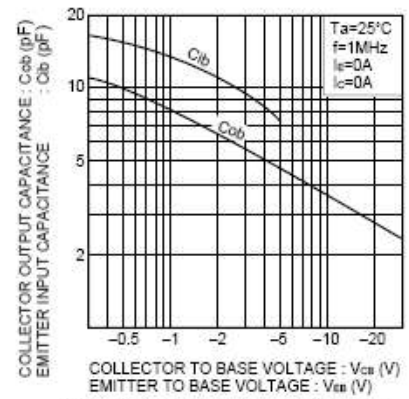


Fig.9 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

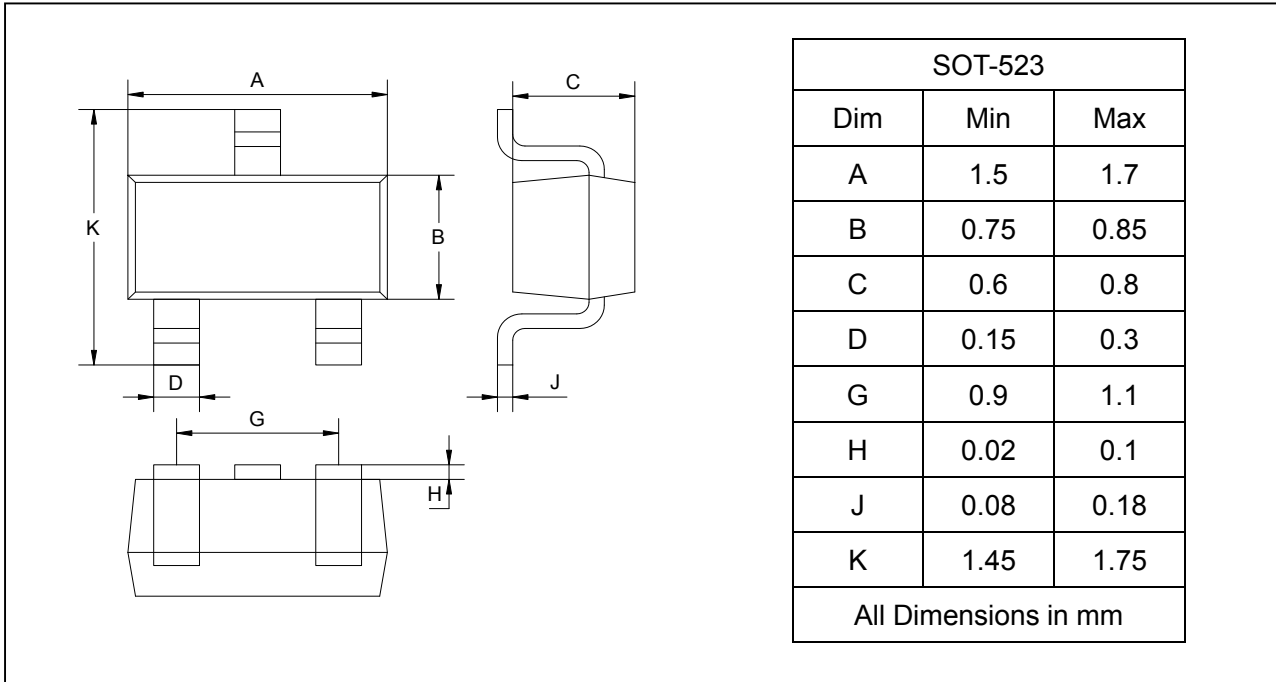
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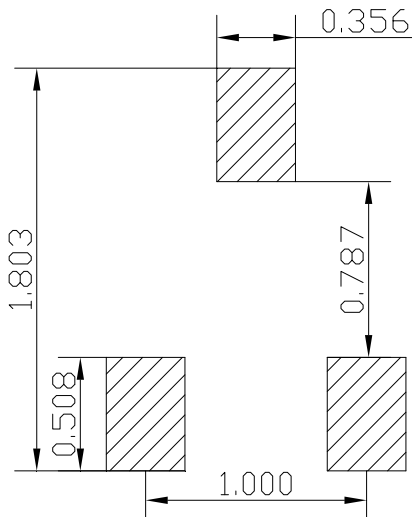
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-523



### SOLDERING FOOTPRINT



Unit : mm

### PACKAGE INFORMATION

Device	Package	Shipping
2SA1774	SOT-523	3000/Tape&Reel