

TRANSISOR(NPN)

FEATURES

- High I_{CMax} . $I_{CMax} = 0.5mA$
- Low $V_{CE(sat)}$. Optimal for low voltage operation.
- Complements the 2SA1036

MAXIMUM RATINGS ($T_A=25^{\circ}C$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$

SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	32			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			1	μA
DC current gain	h_{FE}	$V_{CE}=3V, I_C=100mA$	82		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.4	V
Transition frequency	f_T	$V_{CE}=5V, I_C=20mA, f=100MHz$		250		MHz
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		6.0		pF

CLASSIFICATION OF h_{FE}

Rank	P	Q	R
Range	82-180	120-270	180-390
Marking	CP	CQ	CR

● Electrical characteristic curves

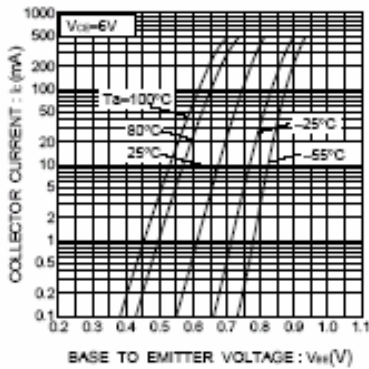


Fig. 1 Grounded emitter propagation characteristics

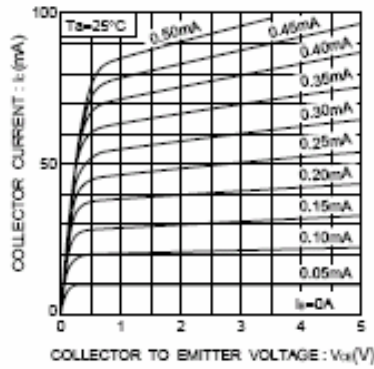


Fig. 2 Grounded emitter output characteristics(I)

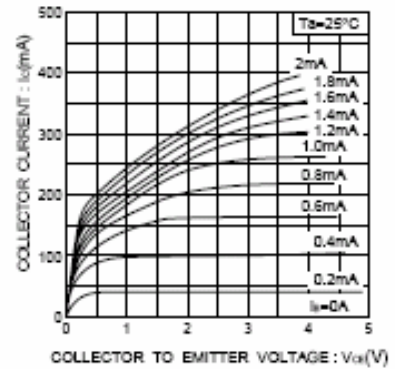


Fig. 3 Grounded emitter output characteristics(II)

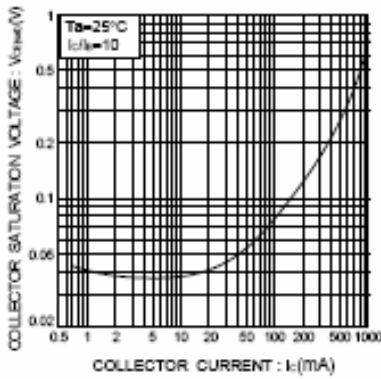


Fig. 4 Collector-emitter saturation voltage vs. collector current

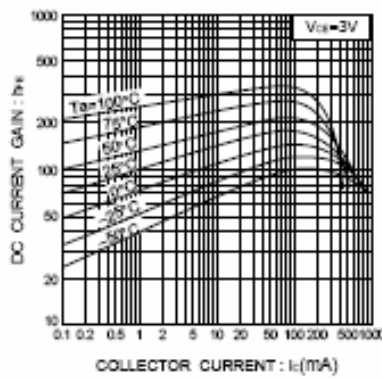


Fig. 5 DC current gain vs. collector current

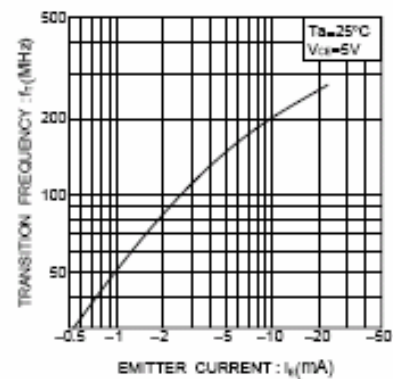


Fig. 6 Gain bandwidth product vs. emitter current

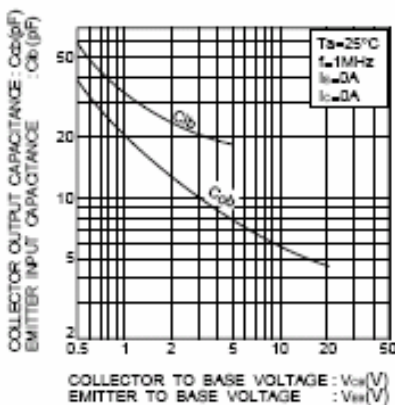


Fig. 7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage