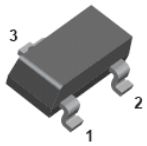
2SA733

Silicon Epitaxial Planar Transistor

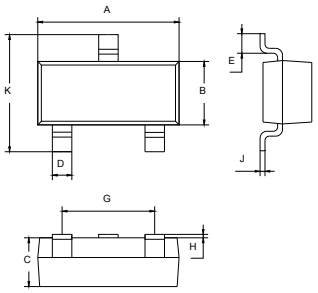


FEATURES

- Excellent h_{FE} Linearity.
- Power dissipation：P_D=250mW.
- High h_{FE}.

APPLICATIONS

- Designed for use in driver stage of amplifier.



SOT-23		
Dim	Min	Max
A	2.70	3.10
B	1.10	1.50
C	Ty1.0 pical	
D	Ty0.4 pical	
E	0.35	0.48
G	1.80	2.00
H	0.02	0.1
J	Ty0.1 pical	
K	2.20	2.60
All Dimensions in mm		

ORDERING INFORMATION

Type No.	Marking	Package Code
2SA733	CS	SOT-23

MAXIMUM RATING @ Ta=25℃ unless otherwise specified

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-100	mA
P_C	Collector Dissipation	250	mW
T_j,T_{stg}	Junction and Storage Temperature	-55 to +150	℃

ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-50μA,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=-50μA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-60V,I_E=0			-0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-0.1	μA
DC current gain	h_{FE}	V_{CE}=-6V,I_C=-1mA	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-100mA, I_B=-10mA		-0.18	-0.3	V
Base-emitter on voltage	V_{BE}	V_{CE}=-6V, I_C= -1.0mA	-0.58	-0.62	-0.68	V
Transition frequency	f_T	V_{CE}=-6V, I_C= -10mA		180		MHz
Collector output capacitance	C_{ob}	V_{CB}=-10V, I_E= 0 f=1MHz		4.5		pF

CLASSIFICATION OF $h_{FE(1)}$

Rank	R	Q	P	E
Range	90-180	135-270	200-400	300-600

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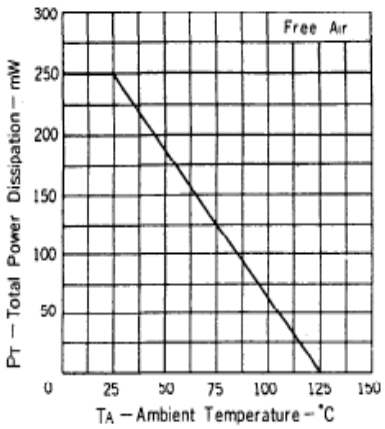
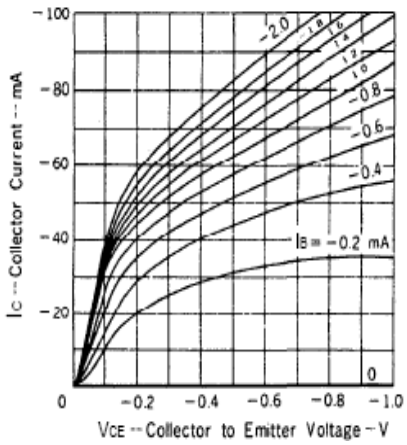
TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

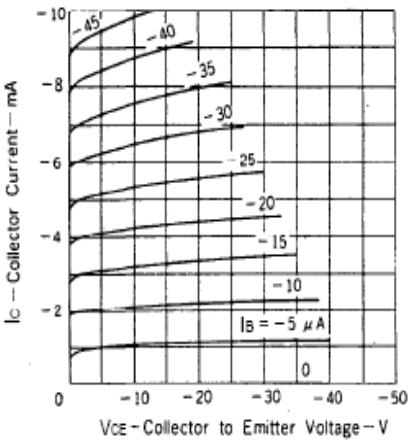
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



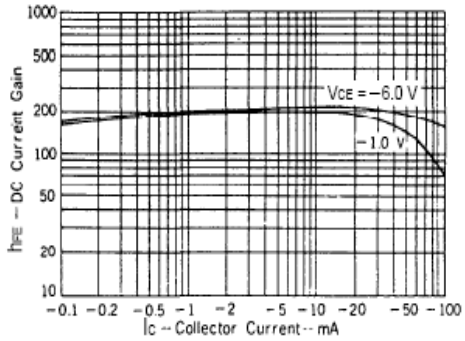
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



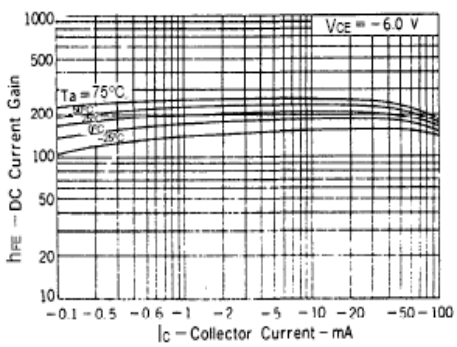
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



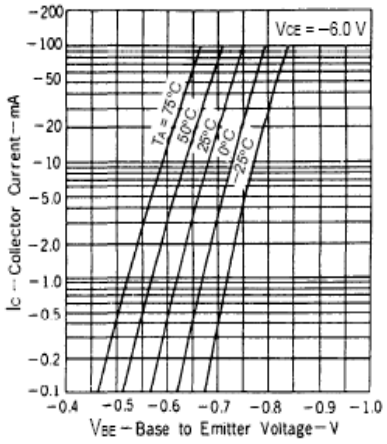
DC CURRENT GAIN vs. COLLECTOR CURRENT



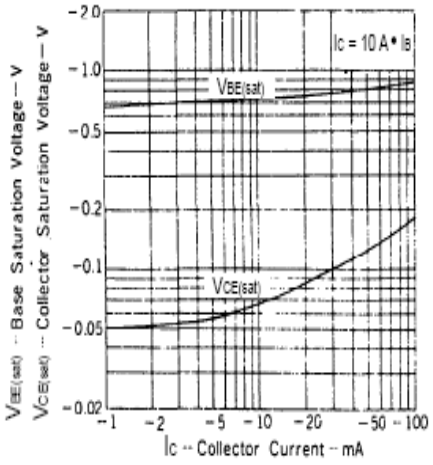
DC CURRENT GAIN vs. COLLECTOR CURRENT



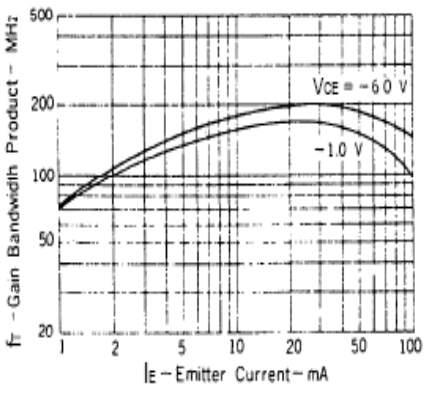
COLLECTOR CURRENT vs. BASE TO EMITTER VOLTAGE



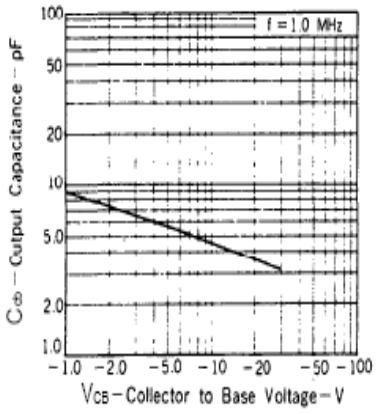
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



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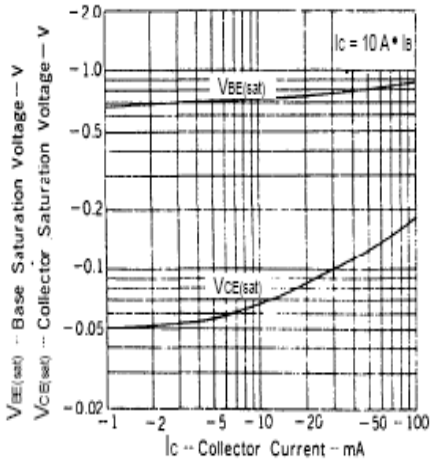
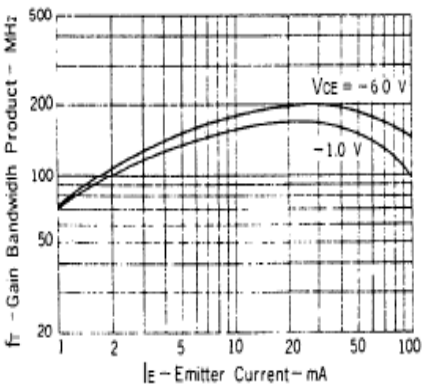
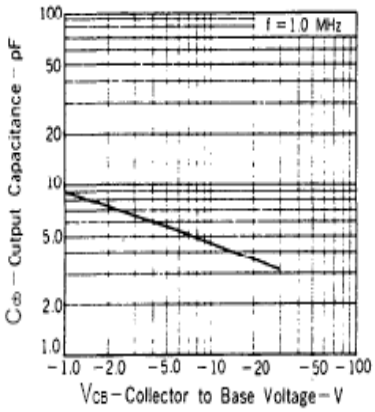
COLLECTOR AND BASE SATURATION VOLTAGE vs. COLLECTOR CURRENT



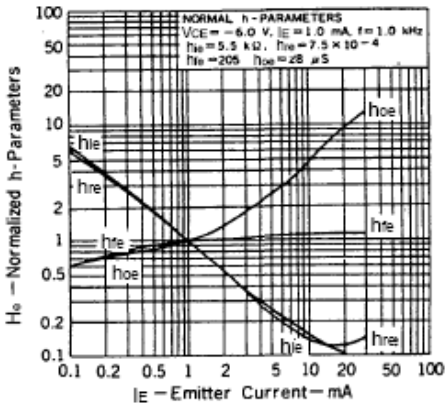
GAIN BANDWIDTH PRODUCT vs. EMITTER CURRENT



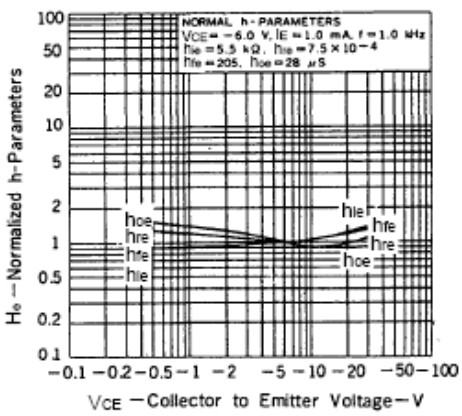
OUTPUT CAPACITANCE vs. REVERSE VOLTAGE



NORMALIZED h-PARAMETERS vs. EMITTER CURRENT



NORMALIZED h-PARAMETERS vs. COLLECTOR TO EMITTER VOLTAGE



Package	Reel	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)
SOT-23	3000pcs	7inch	45,000pcs	203×203×195	180,000pcs	438×438×220