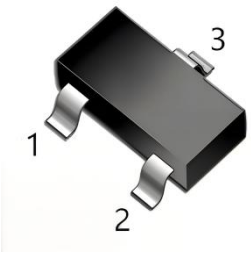
TRANSISTOR (NPN)

Parameter	Value	Unit
V_{CEO}	50	V
I_C	150	mA

1. BASE
2. EMITTER
3. COLLECTOR



SOT-23

Features

- Complementary to PNP Transistor (A733)
- Excellent h_{FE} Linearity
- Low noise

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
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	150	mA
P_C	Collector Power Dissipation	200	mW
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55-150	°C

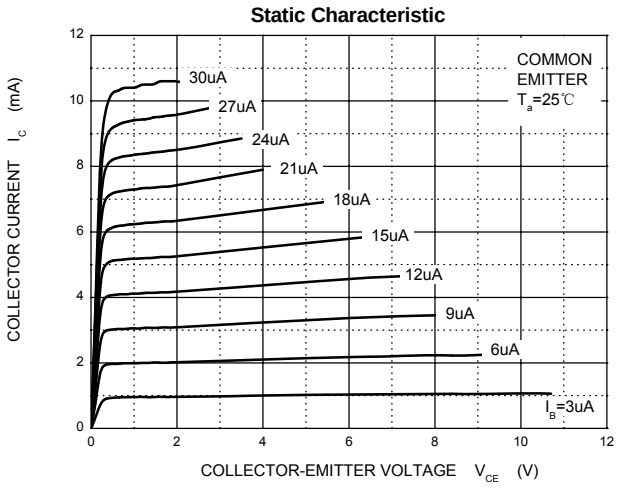
Electrical Characteristics(Ta=25°C unless otherwise noted)

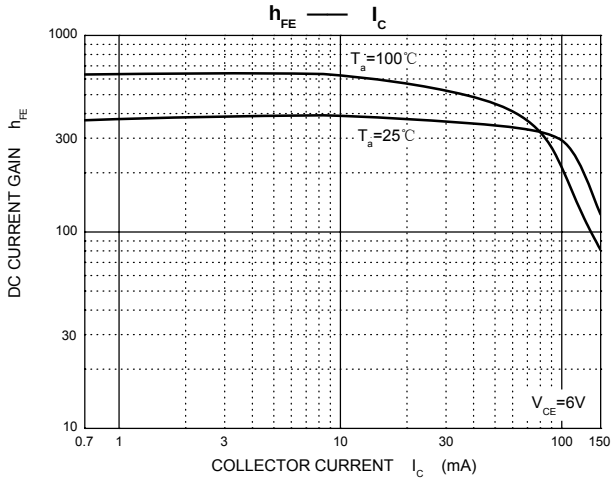
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA , I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA, IC=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=60V, I_E=0			0.1	uA
Collector cut-off current	I_{CER}	V_{CE}=55V,R=10MΩ			0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			0.1	uA
DC current gain	$h_{FE(1)}$	V_{CE}=6V, I_C=1mA	130		400	
	$h_{FE(2)}$	V_{CE}=6V, I_C=0.1mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA			1	V
Transition frequency	f_T	V_{CE}=6V,I_C=10mA,f =30MHz	150			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHZ			3.0	pF
Noise figure	NF	V_{CE}=6V,I_C=0.1mA R_g=10kΩ,f=1kMHZ		4	10	dB

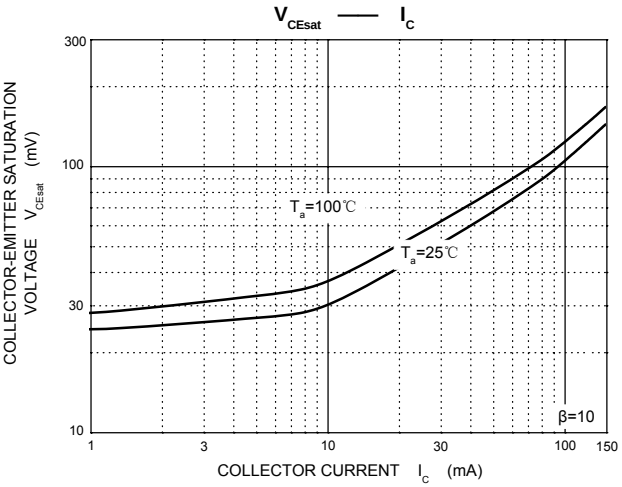
Classification of h_{FE}

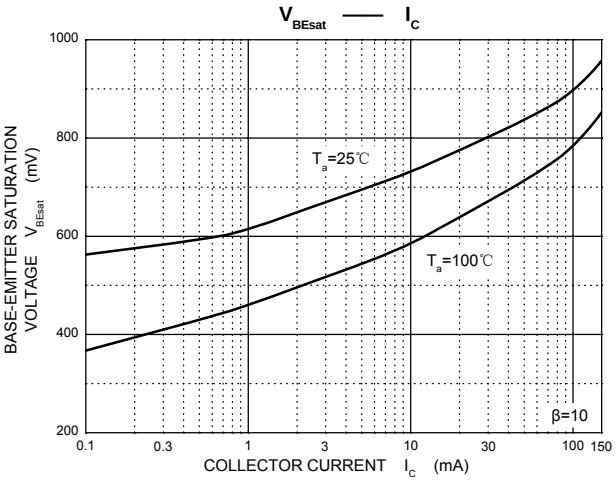
Rank	L	H
Range	130-200	200-400

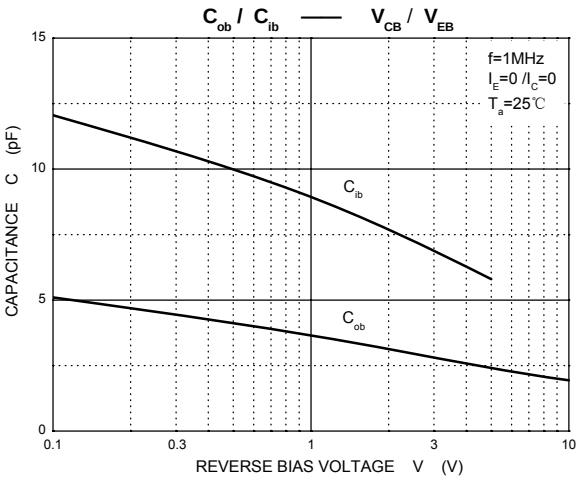
Typical Characteristics

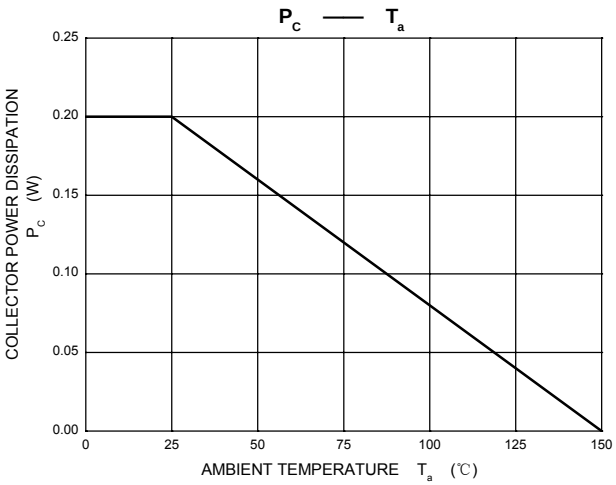






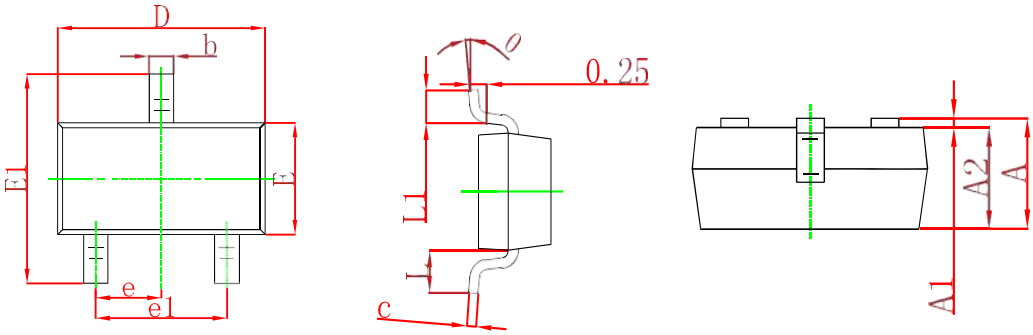






Package Outline Dimensions

SOT-23



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

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