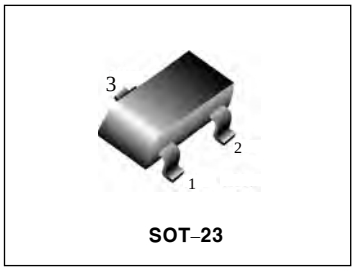
Descriptions

Silicon NPN transistor in a SOT-23 Plastic Package.

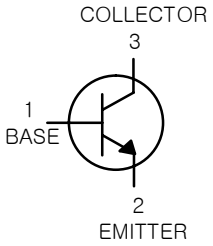


Features

High Speed Switching

Applications

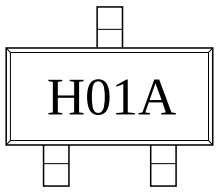
High frequency electronic lighting ballast applications.



Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	600	V
Collector to Emitter Voltage	V_{CEO}	400	V
Emitter to Base Voltage	V_{EBO}	9.0	V
Collector Current - Continuous	I_C	0.17	A
Collector Power Dissipation	P_C	0.5	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

Marking

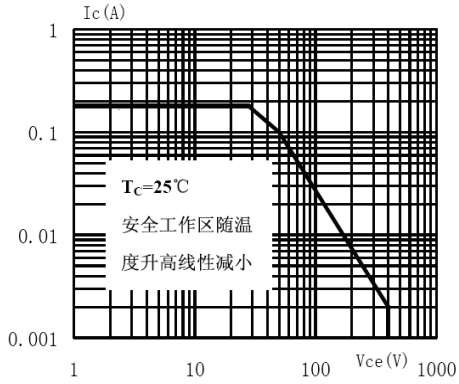


ELECTRICAL CHARACTERISTICS (Ta=25℃)

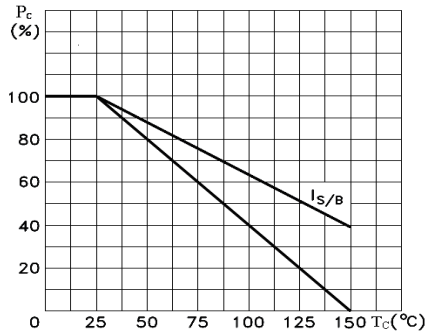
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Voltage	V_{CBO}	I_C=1mA I_E=0	600			V
Collector-Emitter Voltage	V_{CEO}	I_C=10mA I_B=0	400			V
Emitter-Base Voltage	V_{EBO}	I_E=1mA I_C=0	9.0			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=600V I_E=0			0.1	mA
Collector cut-off current	I_{CEO}	V_{CE}=400V I_B=0			0.1	mA
Emitter Base Cut-Off Current	I_{EBO}	V_{EB}=9.0V I_C=0			0.1	mA
DC Current Gain	h_{FE}	V_{CE}=20V I_C=20mA	10		40	
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=50mA I_B=10mA			1	V
Base to Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=50mA I_B=10mA			1.2	V
Transition Frequency	f_T	V_{CE}=10V I_C=50mA f=1.0MHz	5.0			MHz
Fall time	t_s	V_{CE}=5V I_C=100mA (UI9600)			3	μs
Storage time	t_f				1.2	μs

Electrical Characteristic Curve

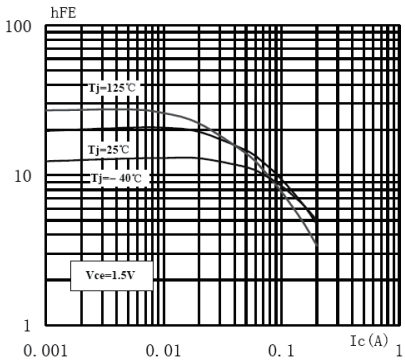
SOA(DC)



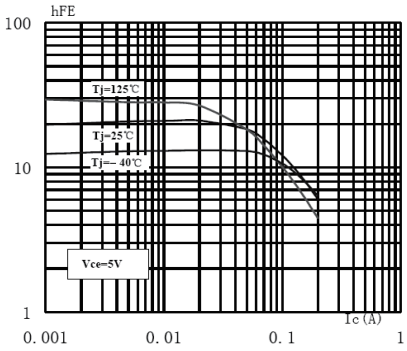
P_C-T_C



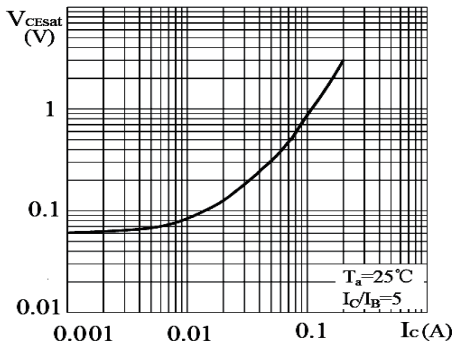
h_{FE}-Ic



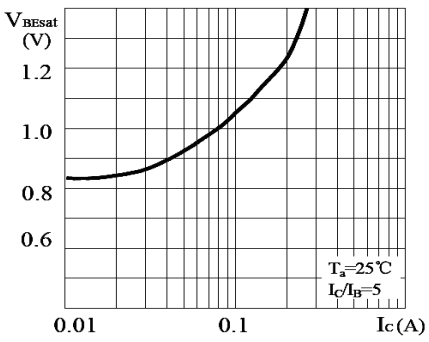
h_{FE}-Ic



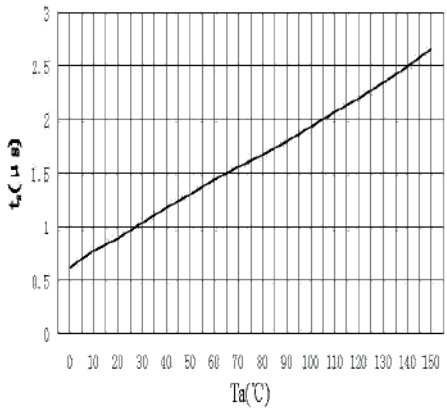
Vces-I_C



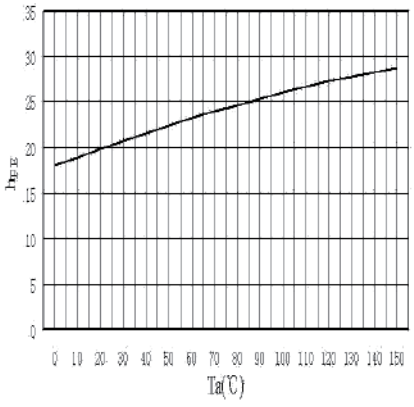
Vbes-I_C



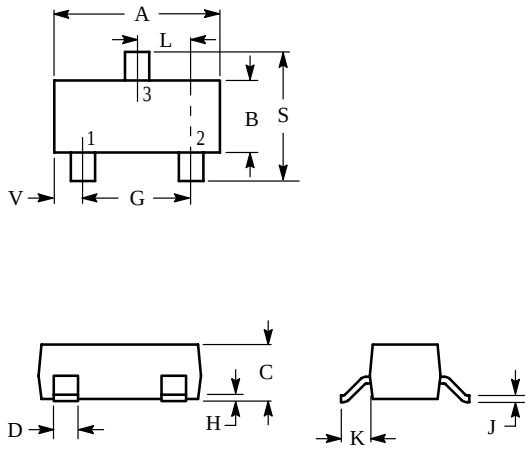
t_S-Ta



h_{FE}-Ta



SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M,1982
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60