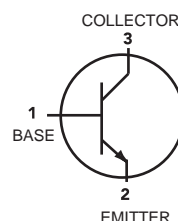


Plastic-Encapsulate Transistors
NPN Silicon
 **Lead(Pb)-Free**

MAXIMUM RATINGS (Ta=25°C)

Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	30	Vdc
Collector-Base Voltage	V _{CBO}	35	Vdc
Emitter-Base Voltage	V _{EBO}	5.0	Vdc
Collector Current -Continuous	I _C	500	mAdc

THERMAL CHARACTERISTICS

Characteristics	Symbol	Value	Unit
Total Device Dissipation TA =25 C	P _D	200	mW
Junction and Storage, Temperature	T _J , T _{stg}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS

Characteristics	Symbol	Min	Max	Unit
Collector-Emitter Breakdown Voltage (I _C = 1 mA dc, I _B =0)	V _{(BR)CEO}	30	-	Vdc
Collector-Base Breakdown Voltage (I _C = -100 uAdc, I _E =0)	V _{(BR)CBO}	35	-	Vdc
Emitter-Base Breakdown Voltage (I _E = 100 uAdc, I _C =0)	V _{(BR)EBO}	5.0	-	Vdc
Collector Cutoff Current (V _{CB} = 35Vdc, I _E =0)	I _{CBO}	-	0.1	uAdc
Emitter Cutoff Current (V _{EB} = 5.0 Vdc, I _C =0)	I _{EBO}	-	0.1	uAdc

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted) (Continued)

Characteristics	Symbol	Min	TYP	Max	Unit
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ON CHARACTERISTICS

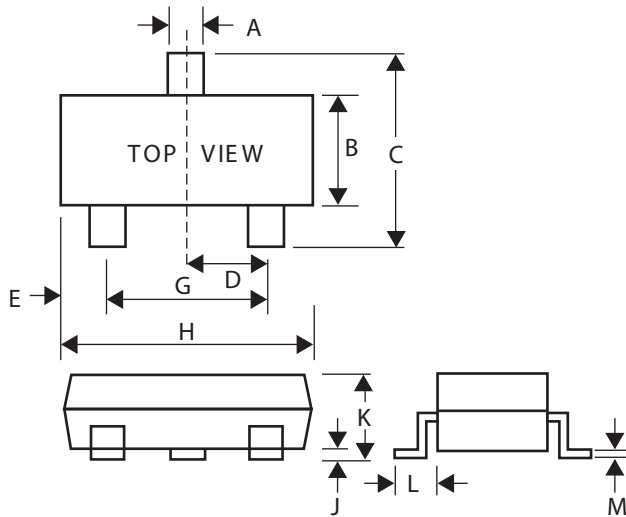
DC Current Gain ($I_C=100\text{mA}$, $V_{CE}=1\text{Vdc}$) ($I_C=400\text{mA}$, $V_{CE}=6\text{Vdc}$)	h_{FE1}	70		400	
	h_{FE2} $\begin{matrix} \circ \\ Y \end{matrix}$	$\begin{matrix} 25 \\ 40 \end{matrix}$			
Collector-Emitter Saturation Voltage ($I_C=100\text{mA}$, $I_B=10\text{mA}$)	$V_{CE(sat)}$			0.25	Vdc
Base-Emitter Voltage ($V_{CE}=1\text{V}$, $I_B=100\text{mA}$)	V_{BE}			1	Vdc
Transition Frequency ($I_C=20\text{mA}$, $V_{CE}=6\text{Vdc}$)	f_T		300		MHz
Collector Output Capacitance ($V_{CB}=6\text{V}$, $I_E=0$, $f=1\text{MHz}$)	C_{ob}		7		pF

CLASSIFICATION OF h_{FE}

Rank	O	Y	GR(G)
Range	70-140	120-240	200-400
Marking	WO	WY	WG

SOT-23 Package Outline Dimensions

Unit:mm



Dim	Min	Max
A	0.35	0.51
B	1.19	1.40
C	2.10	3.00
D	0.85	1.05
E	0.46	1.00
G	1.70	2.10
H	2.70	3.10
J	0.01	0.13
K	0.89	1.10
L	0.30	0.61
M	0.076	0.25