

NPN Silicon Transistor

S9018

FEATURES

- High current gain bandwidth product
- Package: TO-92, SOT-23

Maximum Ratings (Ta = 25°)

Parameter	Symbol	Rating		Unit
Collector-base voltage	BV_{CBO}	30		V
Collector-emitter voltage	BV_{CEO}	15		V
Emitter-base voltage	BV_{EBO}	5		V
Collector current	I_{CM}	50		mA
Collector Power Dissipation	P_C	SOT-23	0.2	W
		TO-92	0.4	
Junction Temperature	T_j	150		°C
Storage Temperature	T_{stg}	-55~+150		°C

TO-92

1. EMITTER
2. BASE
3. COLLECTOR



SOT-23

1. BASE
2. EMITTER
3. COLLECTOR



Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	$I_C=100\mu A, I_E=0$	30			V
Collector-Emitter Breakdown Voltage	BV_{CEO}	$I_C=1mA, I_B=0$	15			V
Emitter-Base Breakdown Voltage	BV_{EBO}	$I_E=100\mu A, I_C=0$	5			V
collector-base cut-off current	I_{CBO}	$V_{CB}=20V, I_E=0$			0.1	μA
collector-emitter cut-off current	I_{CEO}	$V_{CE}=15V, I_B=0$			0.1	μA
emitter-base cut-off current	I_{EBO}	$V_{EB}=3V, I_C=0$			0.1	μA
DC current gain	H_{FE}	$V_{CE}=5V, I_C=1mA$	70		200	
collector-emitter saturation voltage	V_{CESAT}	$I_C=10mA, I_B=1mA$			0.5	V
Base-Emitter Saturation Voltage	V_{BESAT}	$I_C=10mA, I_B=1mA$			1.4	
Transition frequency	f_T	$V_{CE}=5V, I_C=5mA, f=400MHz$	700			MHz

Classification of H_{FE}

Rank	S9018-L	S9018-H
Range	70-110	110-200