



TO-92 Plastic-Encapsulate Transistors

S9011 TRANSISTOR (NPN)

FEATURE

Power dissipation

P_{CM} : 0.31 W ($T_{amb}=25^{\circ}C$)

Collector current

I_{CM} : 0.03 A

Collector-base voltage

$V_{(BR)CBO}$: 30 V

Operating and storage junction temperature range

T_j, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$

TO-92

1. EMITTER

2. BASE

3. COLLECTOR



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu A, I_E=0$	30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=0.1mA, I_B=0$	20			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu A, I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=16V, I_E=0$			0.1	μA
Collector cut-off current	I_{CBO}	$V_{CB}=16V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=3.5V, I_C=0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=5V, I_C=1mA$	28		270	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.3	V
Base-emitter voltage	$V_{BE(sat)}$	$I_C=10mA, I_B=1mA$			1	V
Transition frequency	f_T	$V_{CE}=5V, I_C=1mA, f=30MHz$	150			MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	D	E	F	G	H	I	J
Range	28-45	39-60	54-80	72-108	97-146	132-198	180-270