TRANSISTOR (NPN)

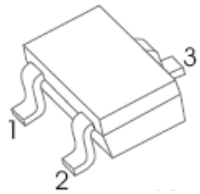
FEATURES

- High DC Current Gain

APPLICATIONS

- General Purpose Amplification

SOT－323



1. BASE
2. EMITTER
3. COLLECTOR

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation	150	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	833	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA, I_E=0	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA, I_B=0	120			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=120V, I_E=0			50	nA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			50	nA
DC current gain	$h_{FE(1)}$*	V_{CE}=6V, I_C=1mA	135		900	
	$h_{FE(2)}$	V_{CE}=6V, I_C=0.1mA	100			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA			0.3	V
Base-emitter voltage	V_{BE}	V_{CE}=6V, I_C=1mA	0.55		0.65	V
Transition frequency	f_T	V_{CE}=6V, I_C=1mA	50			MHz
Collector output capacitance	C_{ob}	V_{CB}=30V, I_E=0, f=1MHz			2.5	pF

*Pulse test: pulse width ≤350μs, duty Cycle≤ 2.0%.

CLASSIFICATION OF $h_{FE(1)}$

RANK	D15	D16	D17	D18
RANGE	135－270	200－400	300－600	450－900
MARKING	D15	D16	D17	D18