

TRANSISTOR (NPN)

FEATURES

- Small reverse Transfer Capacitance: $C_{re}=0.7pF(\text{typ.})$
- Low Noise Figure: $NF=2.5dB(\text{typ.})$ ($f=100MHz$)

MAXIMUM RATINGS ($T_A=25^\circ C$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	4	V
I_C	Collector Current -Continuous	20	mA
P_C	Collector Power Dissipation	100	mW
T_j	Junction Temperature	125	$^\circ C$
T_{stg}	Storage Temperature	-55-+125	$^\circ C$

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB}=18V, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.5	μA
DC current gain	h_{FE}	$V_{CE}=6V, I_C=1mA$	40		200	
Transition frequency	f_T	$V_{CE}=6V, I_C=1mA$		550		MHz
Reverse Transfer capacitance	C_{re}	$V_{CB}=6V, I_E=0, f=1MHz$		0.7		pF
Noise figure	NF	$V_{CE}=6V, I_C=1mA, f=100MHz$		2.5	5	dB

CLASSIFICATION OF h_{FE}

Rank	R	O	Y
Range	40-80	70-140	100-200
Marking	QR	QO	QY



