

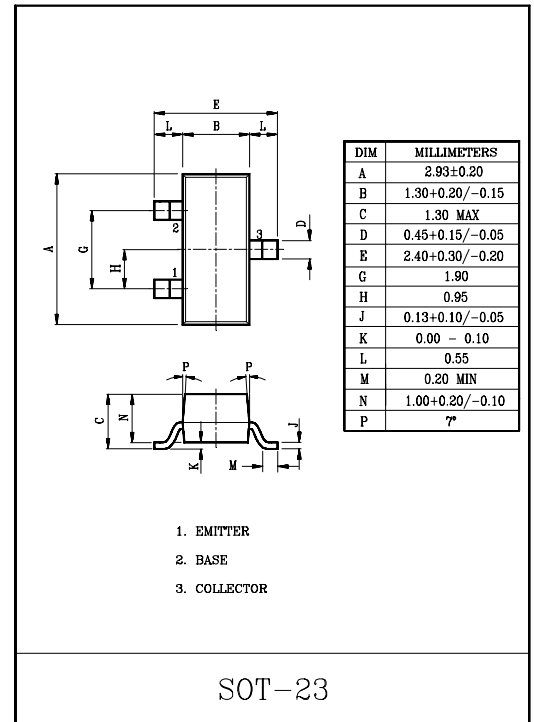
GENERAL PURPOSE APPLICATION.
HIGH VOLTAGE APPLICATION.

FEATURES

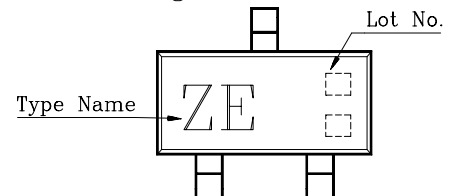
- High Collector Breakdwon Voltage
: $V_{CBO} = -160V$, $V_{CEO} = -150V$
- Low Leakage Current.
: $I_{CBO} = -50nA(\text{Max.})$ @ $V_{CB} = -120V$
- Low Saturation Voltage
: $V_{CE(\text{sat})} = -0.5V(\text{Max.})$ @ $I_C = -50mA$, $I_B = -5mA$
- Low Noise : $NF = 8dB$ (Max.)

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-160	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-600	mA
Base Current	I_B	-100	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 ~ 150	$^\circ C$



Marking



2N5401S

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I _{CBO}	V _{CB} =-120V, I _B =0	-	-	-50	nA
		V _{CB} =-120V, I _B =0, Ta=100°C	-	-	-50	μA
Emitter Cut-off Current	I _{EBO}	V _{EB} =-3V, I _C =0	-	-	-50	nA
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C =-0.1mA, I _E =0	-160	-	-	V
Collector-Emitter Breakdown Voltage *	V _{(BR)CEO}	I _C =-1mA, I _B =0	-150	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-5	-	-	V
DC Current Gain *	h _{FE} (1)	V _{CE} =-5V, I _C =-1mA	50	-	-	
	h _{FE} (2)	V _{CE} =-5V, I _C =-10mA	60	-	240	
	h _{FE} (3)	V _{CE} =-5V, I _C =-50mA	50	-	-	
Collector-Emitter Saturation Voltage *	V _{CE(sat)1}	I _C =-10mA, I _B =-1mA	-	-	-0.2	V
	V _{CE(sat)2}	I _C =-50mA, I _B =-5mA	-	-	-0.5	
Base-Emitter Saturation Voltage *	V _{BE(sat)1}	I _C =-10mA, I _B =-1mA	-	-	-1.0	V
	V _{BE(sat)2}	I _C =-50mA, I _B =-5mA	-	-	-1.0	
Transition Frequency	f _T	V _{CE} =-10V, I _C =-10mA, f=100MHz	100	-	300	MHz
Collector Output Capacitance	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz	-	-	6	pF
Small-Signal Current Gain	h _{fe}	V _{CE} =-10V, I _C =-1mA, f=1kHz	40	-	200	
Noise Figure	NF	V _{CE} =-5V, I _C =-250μA R _g =1kΩ, f=10Hz~15.7kHz	-	-	8	dB

*Pulse Test : Pulse Width ≤300μS, Duty Cycle ≤2%