

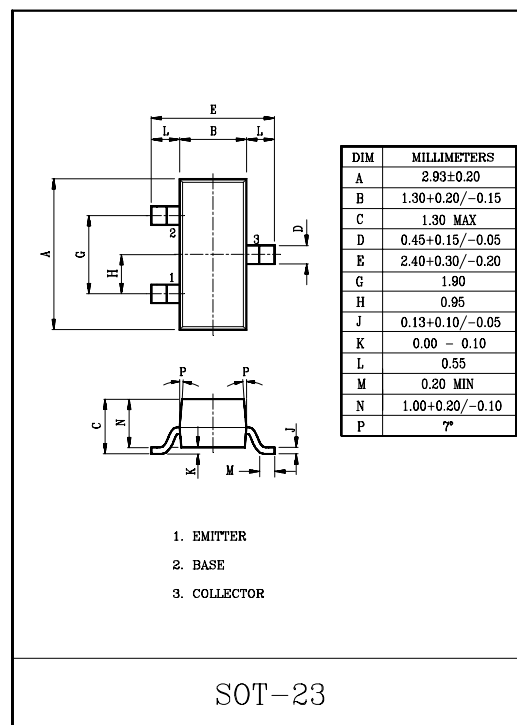
GENERAL PURPOSE APPLICATION.
HIGH VOLTAGE APPLICATION.

FEATURES

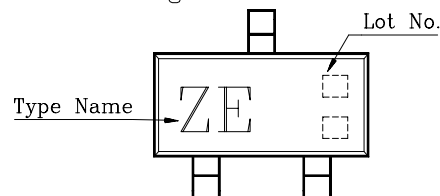
- High Collector Breakdown Voltage
: $V_{CEO} = -100V$, $V_{CE0} = -150V$
- Low Leakage Current
: $I_{CEO} = 50nA(Max.)$ @ $V_{CE0} = -120V$
- Low Saturation Voltage
: $V_{CE(sat)} = -0.5V(Max.)$ @ $I_C = -50mA$, $I_B = -5mA$
- Low Noise : NF=8dB (Max.)

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Base Voltage	V_{CB0}	160	V
Collector Emitter Voltage	V_{CE0}	150	V
Emitter Base Voltage	V_{EB0}	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	°C
Storage Temperature Range	T_{stg}	-55 ~ 150	°C



Marking



2N5401S

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	$V_{CE} = 120V, I_B = 0$			50	nA
		$V_{CE} = 120V, I_B = 0, T_a = 100℃$			50	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 3V, I_C = 0$			50	nA
Collector-Base Breakdown Voltage	$V_{(BR)CB}$	$I_C = -0.1mA, I_E = 0$	-100	-	-	V
Collector-Emitter Breakdown Voltage *	$V_{(BR)CE}$	$I_C = -1mA, I_E = 0$	-150	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EB}$	$I_E = -10μA, I_C = 0$	-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 *	$V_{CE(sat)1}$	$I_C = 10mA, I_E = 1mA$			0.2	V
	$V_{CE(sat)2}$	$I_C = 50mA, I_E = 5mA$			0.5	
Base-Emitter Saturation Voltage *	$V_{BE(sat)1}$	$I_C = 10mA, I_E = 1mA$			1.0	V
	$V_{BE(sat)2}$	$I_C = 50mA, I_E = 5mA$			1.0	
Transition Frequency	f_T	$V_{CE} = 10V, I_C = 10mA, f = 100MHz$	100		300	MHz
Collector Output Capacitance	C_{co}	$V_{CE} = 10V, I_C = 0, f = 1MHz$			6	pF
Small Signal Current Gain	h_{fe}	$V_{CE} = 10V, I_C = 1mA, f = 1kHz$	40		200	
Noise Figure	NF	$V_{CE} = -5V, I_C = -250μA$ $R_g = 1kΩ, f = 10Hz \sim 15.7kHz$	-	-	8	dB

*Pulse Test : Pulse Width $\leq 300μs$, Duty Cycle $\leq 2\%$