

GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

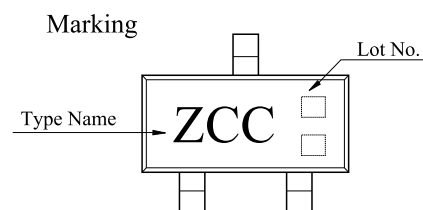
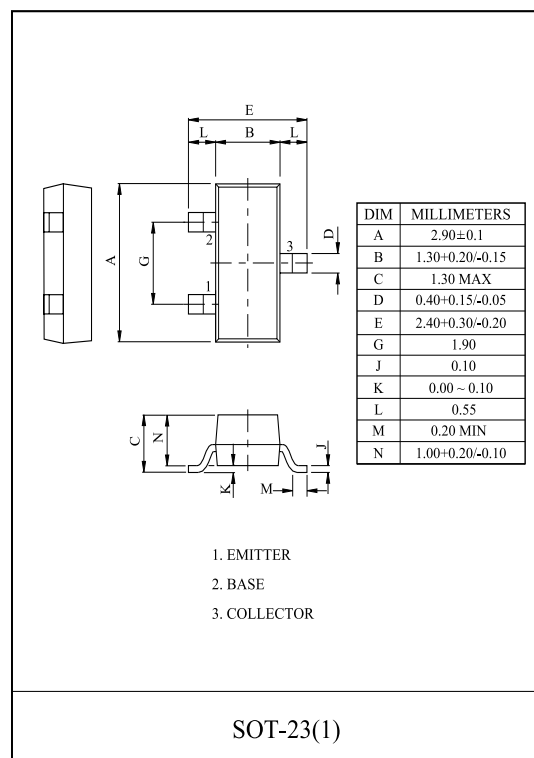
FEATURES

- Low Leakage Current
: $I_{CEX}=50\text{nA}(\text{Max.})$, $I_{BL}=50\text{nA}(\text{Max.})$
@ $V_{CE}=30\text{V}$, $V_{EB}=3\text{V}$.
- Excellent DC Current Gain Linearity.
- Low Saturation Voltage
: $V_{CE(\text{sat})}=0.3\text{V}(\text{Max.})$ @ $I_C=50\text{mA}$, $I_B=5\text{mA}$.
- Complementary to 2N3906SC.

MAXIMUM RATING ($T_a=25^\circ\text{C}$)

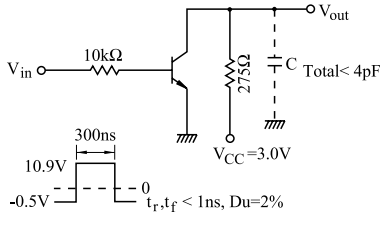
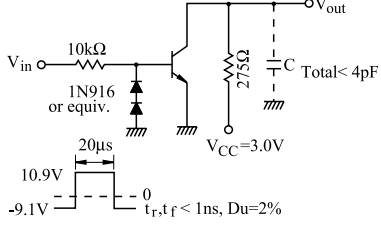
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	40	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current	I_C	200	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C^*	350	mW
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

* P_C : Package Mounted On 99.5% Alumina $10 \times 8 \times 0.6\text{mm}$)



2N3904SC

ELECTRICAL CHARACTERISTICS (Ta=25 °C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CEX}	$V_{CE}=30V, V_{EB}=3V$	-	-	50	nA
Collector Cut-off Current		I_{CBO}	$V_{CB}=30V, I_E=0$	-	-	100	nA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=3V, I_C=0$	-	-	100	nA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	60	-	-	V
Collector-Emitter Breakdown Voltage *		$V_{(BR)CEO}$	$I_C=1mA, I_B=0$	40	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	6.0	-	-	V
DC Current Gain *		h_{FE}	$V_{CE}=1V, I_C=10mA$	150	-	250	
Collector-Emitter Saturation Voltage *		$V_{CE(sat)}$	$I_C=50mA, I_B=5mA$	-	-	0.3	V
Base-Emitter Saturation Voltage *		$V_{BE(sat)}$	$I_C=50mA, I_B=5mA$	-	-	0.95	V
Transition Frequency		f_T	$V_{CE}=20V, I_C=10mA, f=100MHz$	250	-	-	MHz
Switching Time	Delay Time	t_d		-	-	35	nS
	Rise Time	t_r		-	-	35	
	Storage Time	t_{stg}		-	-	200	
	Fall Time	t_f		-	-	50	

* Pulse Test : Pulse Width 300 μs, Duty Cycle 2%.

2N3904SC

