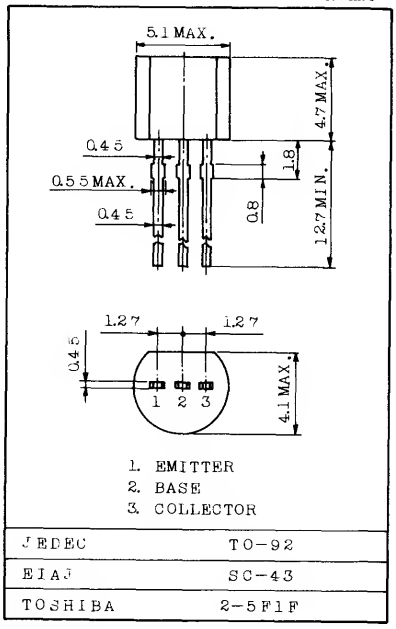
FOR GENERAL PURPOSE USE SWITCHING AND AMPLIFIER APPLICATIONS.

FEATURES:

- Low Leakage Current
  : I_{CEV}=-50nA(Max.), I_{BEV}=50nA(Max.)
  @ V_{CE}=-30V, V_{BE}=3V
- Excellent DC Current Gain Linearity
- Low Saturation Voltage
  : $V_{CE(sat)}$=-0.4V(Max.) @ I_C=-50mA, I_B=-5mA
- Low Collector Output Capacitance
  : C_{ob}=4.5pF(Max.) @ V_{CB}=-5V
- Complementary to 2N3903

Unit in mm



JEDEC	TO-92
EIAJ	SC-43
TOSHIBA	2-5F1F

Weight : 0.21g

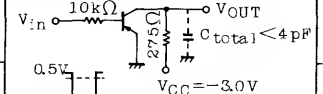
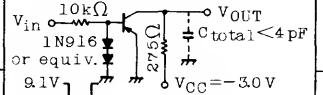
MAXIMUM RATINGS (Ta=25°C)

	CHARACTERISTIC	SYMBOL	RATING	UNIT
※	Collector-Base Voltage	V_{CBO}	-40	V
※	Collector-Emitter Voltage	V_{CEO}	-40	V
※	Emitter-Base Voltage	V_{EBO}	-5	V
※	Collector Current	I_C	-200	mA
	Base Current	I_B	-50	mA
※	Collector Power Dissipation (Ta=25°C) Derate Linearly 25°C	P_C	350	mW
			2.8	mW/°C
※	Collector Power Dissipation (Tc=25°C) Detate Linearly 25°C	P_C	1.0	W
			8	mW/°C
※	Thermal Resistance (Junction to Ambient)	$R_{th(j-a)}$	357	°C/W
※	Thermal Resistance (Junction to Case)	$R_{th(j-c)}$	125	°C/W
※	Junction Temperature	T_j	150	°C
※	Storage Temperature Range	T_{stg}	-55~150	°C

※In Accordance with JEDEC registration data.

2N3905

ELECTRICAL CHARACTERISTICS (Ta=25°C)

	CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
※	Collector Cut-off Current		I_{CEV}	V_{CE}=-30V, V_{BE}=3V	-	-	-50	nA
※	Base Cut-off Current		I_{BEV}	V_{CE}=-30V, V_{BE}=3V	-	-	50	nA
※	Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	I_C=-10μA, I_E=0	-40	-	-	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=-10μA, I_C=0	-5	-	-	V
※	DC Current Gain		$h_{FE(1)}$	V_{CE}=-1V, I_C=-0.1mA	30	-	-	
			$h_{FE(2)}$	V_{CE}=-1V, I_C=-1mA	40	-	-	
			$h_{FE(3)}$	V_{CE}=-1V, I_C=-10mA	50	-	150	
			$h_{FE(4)}$	V_{CE}=-1V, I_C=-50mA	30	-	-	
			$h_{FE(5)}$	V_{CE}=-1V, I_C=-100mA	15	-	-	
※	Collector-Emitter Saturation Voltage		$V_{CE(sat)1}$	I_C=-10mA, I_B=-1mA	-	-	-0.25	V
			$V_{CE(sat)2}$	I_C=-50mA, I_B=-5mA	-	-	-0.4	
※	Base-Emitter Saturation Voltage		$V_{BE(sat)1}$	I_C=-10mA, I_B=-1mA	-0.65	-	-0.85	V
			$V_{BE(sat)2}$	I_C=-50mA, I_B=-5mA	-	-	-0.95	
※	Transition Frequency		f_T	V_{CE}=-20V, I_C=-10mA f=100MHz	200	-	-	MHz
※	Collector Output Capacitance		C_{ob}	V_{CB}=-5V, I_E=0, f=1MHz	-	-	4.5	pF
※	Input Capacitance		C_{ib}	V_{EB}=-0.5V, I_C=0 f=1MHz	-	-	10	pF
※	Input Impedance		h_{ie}	V_{CE}=-10V, I_C=-1mA f=1kHz	0.5	-	8	kΩ
※	Voltage Feedback Ratio		h_{re}		0.1	-	5	×10⁻⁴
※	Small-Signal Current Gain		h_{fe}		50	-	200	
※	Collector Output Admittance		h_{oe}		1.0	-	40	μS
※	Noise Figure		NF	V_{CE}=-5V, I_C=-0.1mA R_g=1kΩ, f=10Hz～15.7kHz	-	-	5	dB
※	Switching Time	Delay Time	$t_{d(ON)}$		-	-	35	ns
		Rise Time	t_r		-	-	35	
		Storage Time	t_{stg}		-	-	200	
		Fall Time	t_f		-	-	60	

In accordance with JEDEC registration data.