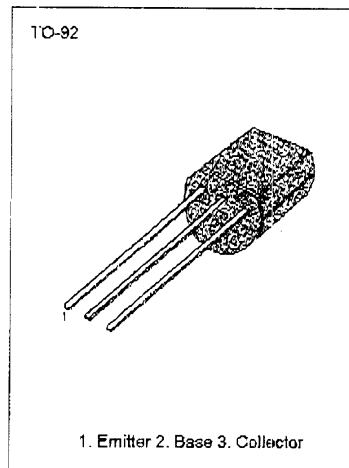


GENERAL PURPOSE TRANSISTOR

Collector-Emitter Voltage: $V_{CE0}=40V$
Collector Dissipation: $P_C(\max)=625mW$

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CE0}	40	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current	I_C	200	mA
Collector Dissipation	P_C	625	mW
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	-55 ~ 150	$^\circ C$



ELECTRICAL CHARACTERISTICS ($T_A=25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=10\mu A, I_E=0$	60			V
*Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=1mA, I_B=0$	40			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E=10\mu A, I_C=0$	6			V
Collector Cut-off Current	I_{CEX}	$V_{CE}=30V, V_{EB}=3V$			50	nA
Base Cut-off Current	I_{BL}	$V_{CE}=30V, V_{EB}=3V$			50	nA
*DC Current Gain	h_{FE}	$V_{CE}=1V, I_C=0.1mA$	20			
	:2N3903		40			
	2N3904		35			
	2N3903	$V_{CE}=1V, I_C=1mA$	70			
	2N3904		50		150	
	2N3904		100		300	
	2N3903	$V_{CE}=1V, I_C=10mA$	30			
	2N3904		60			
	2N3903	$V_{CE}=1V, I_C=100mA$	15			
	2N3904		30			
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA, I_B=1mA$			0.2	V
		$I_C=50mA, I_B=5mA$			0.3	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10mA, I_E=1mA$	0.65		0.85	V
		$I_C=50mA, I_B=5mA$			0.95	V
Output Capacitance	C_{OB}	$V_{CB}=5V, I_E=0$			4	pF
		$f=1MHz$				
Current Gain-Bandwidth Product		$V_{CE}=20V, I_C=10mA$				
	:2N3903	$f=100MHz$	250			MHz
	2N3904		300			MHz
Turn On Time	t_{ON}	$V_{CC}=3V, V_{AC}=0.5V$			70	ns
		$I_C=10mA, I_{B1}=1mA$				
Turn Off Time	t_{OFF}	$V_{CC}=3V, I_C=10mA$			225	ns
	:2N3903	$I_{B1}=I_{B2}=1mA$			250	ns
	2N3904					

*Pulse Test: Pulse Width $\leq 30\mu s$, Duty Cycle $\leq 2\%$

