

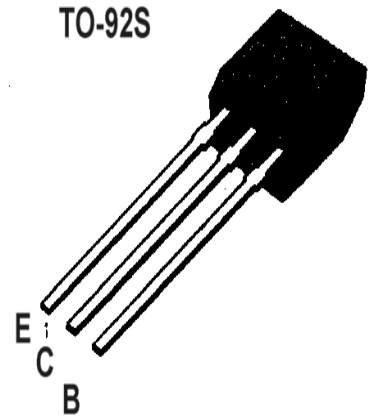
NPN Transistors

—NPN Silicon—

■■ APPLICATION: General purpose application

■■ MAXIMUM RATINGS (Ta=25°C)

PARAMETER	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	0.2	A
Collector Power Dissipation	P _C	0.3	W
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55~150	°C



■■ ELECTRICAL CHARACTERISTICS (Ta=25°C, RG=10Ω)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION		
Collector-Base Breakdown Voltage	BV _{CBO}	60			V	I _C =0.1mA	I _E =0	
Collector-Emitter Breakdown Voltage	BV _{CEO}	40			V	I _C =1mA	I _B =0	
Emitter-Base Breakdown Voltage	BV _{EBO}	6			V	I _E =0.1mA	I _C =0	
Collector Cut-off Current	I _{CEx}			0.05	uA	V _{CE} =30V	V _{BE} =3V	
Emitter Cut-off Current	I _{BEx}			0.05	uA	V _{CE} =30V	V _{BE} =3V	
Base-Emitter Saturation Voltage	V _{BE(sat)}			0.95	V	I _C =50mA	I _B =5mA	
Collector-Emitter Saturation Voltage	V _{CE(sat)}			0.3	V	I _C =50mA	I _B =5mA	
DC Current Gain	h _{FE}	70		300	β	V _{CE} =1V	I _C =10mA	
Gain bandwidth product	f _T	250			MHz	V _{CE} =20V	I _C =10mA	f=100MHz
Common Base Output Capacitance	C _{ob}			4	pF	V _{CB} =5V	I _E =0	f=1MHz
Turn on Time	t _{on}			70	ns	V _{CC} =3V	I _C =10mA	I _{B1} =-1mA
Turn off Time	t _{off}			255	ns	V _{CC} =3V	I _{B1,2} =-1mA	I _C =10mA

■■ H_{FE} Classification And Marking

Mark	3904S
Classification	
h _{FE}	70~300