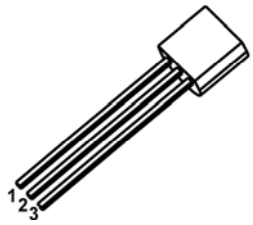
FS13001

TRANSISTOR (NPN)

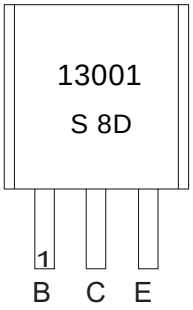
TO – 92



FEATURE

- power switching applications

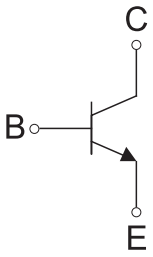
MARKING



13001=Device code

S 8D=Code

Equivalent Circuit



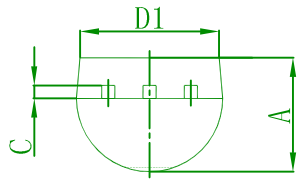
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

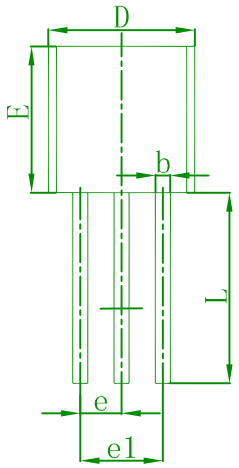
Symbol	Parameter	Value	Unit
V_{CBO}	Collector -Base Voltage	600	V
V_{CEO}	Collector-Emitter Voltage	420	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	0.2	A
P_C	Collector Power Dissipation	0.75	W
T_J	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55 ~150	℃

ELECTRICAL CHARACTERISTICS T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100μA , I_E=0	600			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= 1mA , I_B=0	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 100μA, I_C=0	7			V
Collector cut-off current	I_{CBO}	V_{CB}= 600V , I_E=0			100	μA
Collector cut-off current	I_{CEO}	V_{CE}= 400V, I_B=0			200	μA
Emitter cut-off current	I_{EBO}	V_{EB}=7V, I_C=0			100	μA
DC current gain	$h_{FE(1)}$	V_{CE}= 20V, I_C= 20mA	14		30	
	$h_{FE(2)}$	V_{CE}= 10V, I_C= 0.25 mA	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C= 50mA, I_B= 10 mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C= 50 mA, I_B= 10mA			1.2	V
Transition frequency	f_T	V_{CE}= 20V, I_C=20mA f = 1MHz	8			MHz
Fall time	t_f	I_C=50mA, I_{B1}=-I_{B2}=5mA, V_{CC}=45V			0.3	μs
Storage time	t_S				1.5	μs

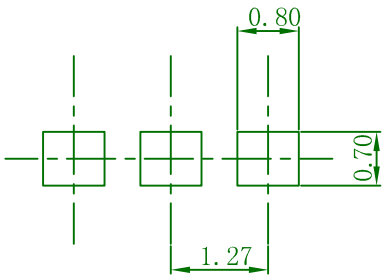
TO-92 Package Outline Dimensions





Symbol	Dimensions In Millimeters	
	Min	Max
A	3.100	3.800
b	0.340	0.550
c	0.300	0.510
D	4.100	4.900
D1	3.700	4.800
E	4.300	4.800
e	1.270 TYP	
e1	2.440	2.640
L	13.100	14.500

TO-92 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.