13003

TO-92 Plastic-Encapsulate Transistors(NPN)

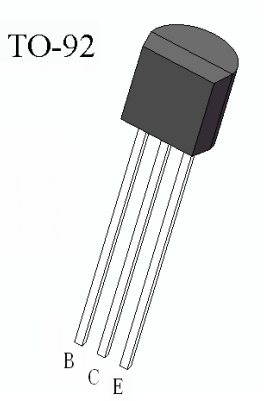
High Voltage Mode Application

High speed Switching

Suitable for Switching Regulator and Motor Control

Absolute Maximum Rating (Ta=25℃)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	BV_{CBO}	650	V
Collector-Emitter Voltage	BV_{CEO}	400	V
Emitter-Base Voltage	BV_{EBO}	7	V
Collector Current	I_C	1.5	A
Collector Power Dissipation	P_C	0.75	W
Junction Temperature	Tj	150	℃
Storage Temperature	Tstg	-55～150	℃



Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Value			Unit
			min	typ	Max	
Collector-base breakdown voltage	BV_{CBO}	I_C = 100μA, I_E = 0	650			V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA, I_B = 0	400			V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 100μA, I_C = 0	7			V
Collector cut-off current	I_{CBO}	V_{CB} =600V, I_E = 0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE} = 400V, I_B = 0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 7V, I_C = 0			0.1	μA
*DC current gain	h_{FE}	V_{CE} = 20V, I_C= 20mA V_{CE} = 10V, I_C=0.25mA	8 5		40	
*Collector-emitter saturation voltage	V_{CE} (sat)	I_C = 1A, I_B = 0.25A			1	V
*Base -emitter saturation voltage	V_{BE} (sat)	I_C = 1A, I_B = 0.25A			1.2	V
Transition frequency	f_T	V_{CE} =10V, I_B = 0.1A	8			MHz
Storage Time	t_S	V_{CC} =45V, IB = 500mA I_{B1}= 0.2A, I_{B2}=- 0.2A			4.0	μs
Fall Time	t_F				0.5	μs

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

H_{FE}(1)Range

Range	10-15	15-20	20-25	25-30	30-30	35-40