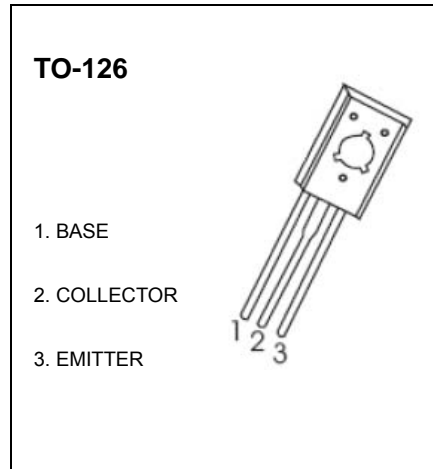


TO-126 Plastic-Encapsulate Transistors

3DD13003N3 TRANSISTOR (NPN)

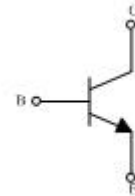
FEATURES

- Power switching applications
- Good high temperature
- Low saturation voltage
- High speed switching



MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current	1.5	A
P _C	Collector Power Dissipation	1.25	W
R _{θJA}	Thermal Resistance From Junction To Ambient	100	°C/W
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C



ELECTRICAL CHARACTERISTICS (T_a=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 1mA, I _E =0	700			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C =10mA, I _B =0	400			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E =1mA, I _C =0	9			V
Collector cut-off current	I _{CBO}	V _{CB} =700V, I _E =0			10	μ A
Collector cut-off current	I _{CEO}	V _{CE} =400V, I _B =0			50	μ A
Emitter cut-off current	I _{EBO}	V _{EB} =9V, I _C =0			10	μ A
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C =0.2A	10		40	
	h _{FE(2)}	V _{CE} =5V, I _C =1mA	8			
	h _{FE(3)}	V _{CE} =5V, I _C =1.5A	5			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1A, I _B =0.2A			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =1A, I _B =0.25A			1.5	V
Storage time	t _s	I _C =250mA (UI9600)	2		4	μ s

CLASSIFICATION OF h_{FE(1)}

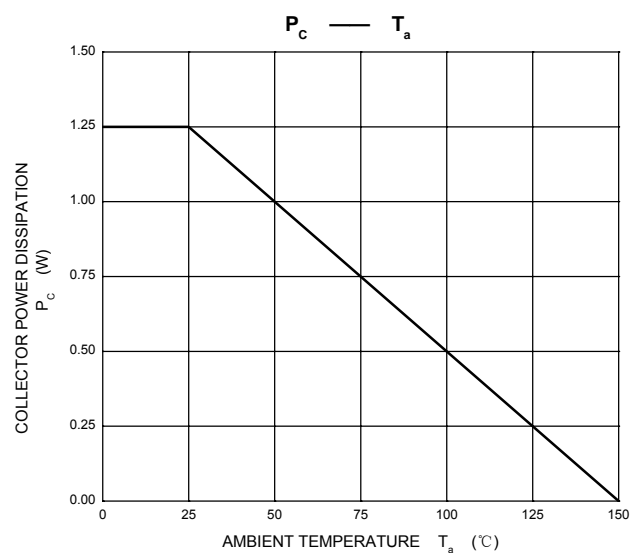
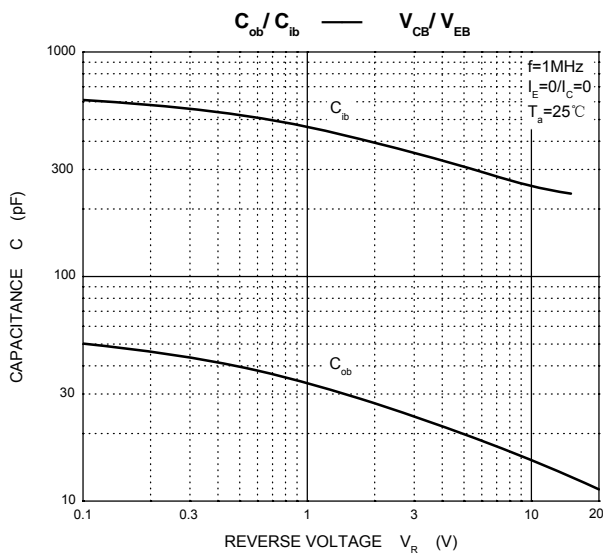
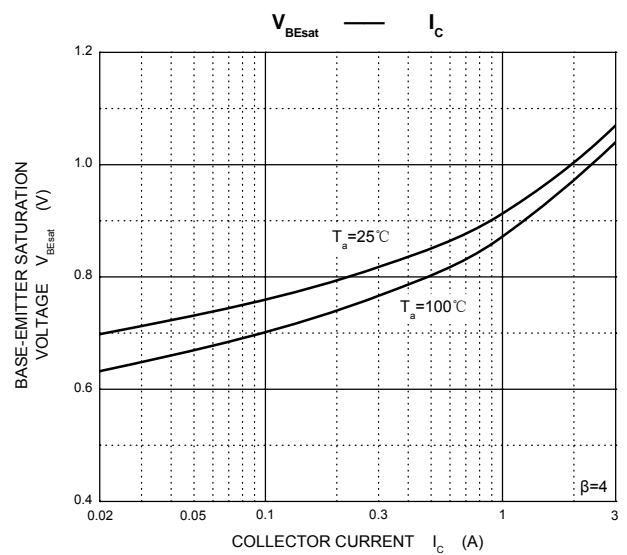
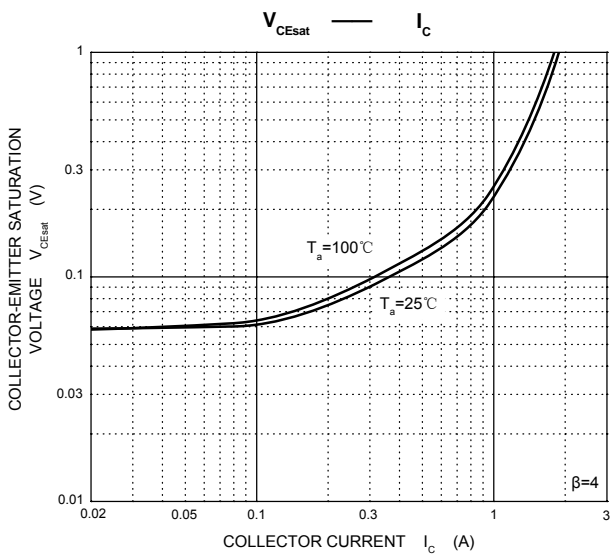
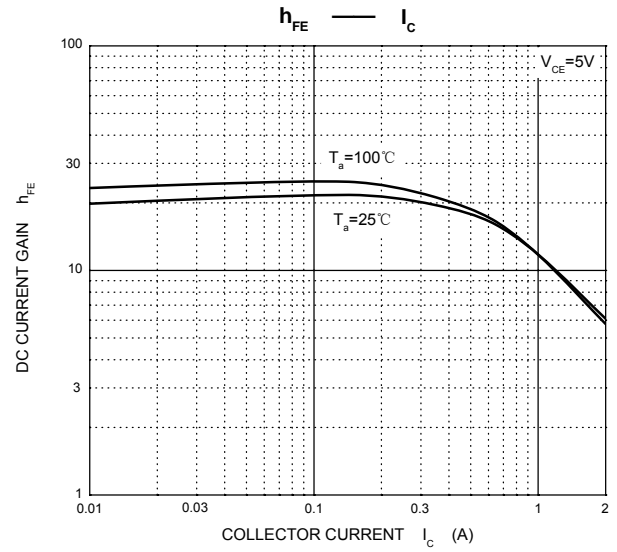
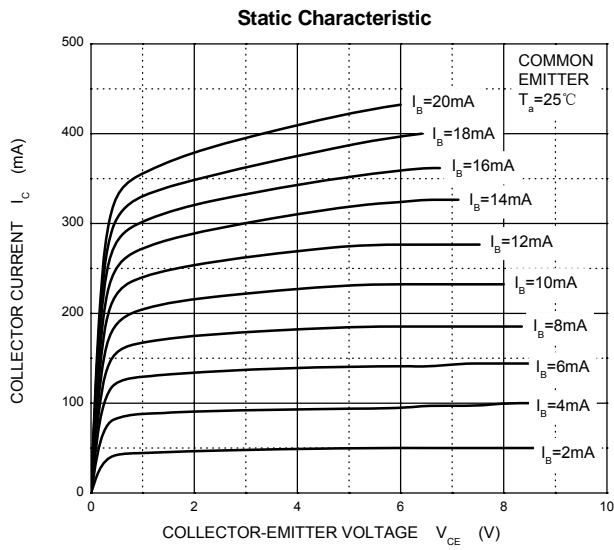
Range	10-15	15-20	20-25	25-30	30-35	35-40
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CLASSIFICATION OF t_s

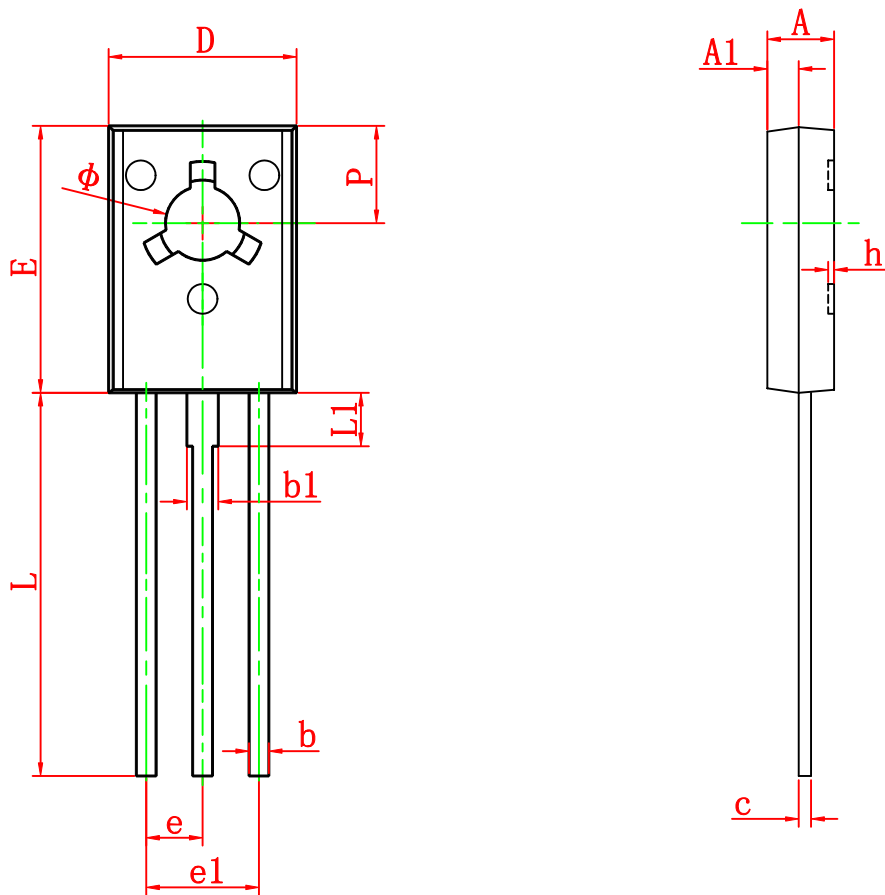
Rank	A1	A2	B1	B2
Range	2-2.5 (μ s)	2.5-3 (μ s)	3-3.5 (μ s)	3.5-4 (μ s)

Typical Characteristics

3DD13003N3



TO-126 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	2.500	2.900	0.098	0.114
A1	1.100	1.500	0.043	0.059
b	0.660	0.860	0.026	0.034
b1	1.170	1.370	0.046	0.054
c	0.450	0.600	0.018	0.024
D	7.400	7.800	0.291	0.307
E	10.600	11.000	0.417	0.433
e	2.290 TYP		0.090 TYP	
e1	4.480	4.680	0.176	0.184
h	0.000	0.300	0.000	0.012
L	15.300	15.700	0.602	0.618
L1	2.100	2.300	0.083	0.091
P	3.900	4.100	0.154	0.161
ϕ	3.000	3.200	0.118	0.126