

TO-18 Plastic-Encapsulate Transistors

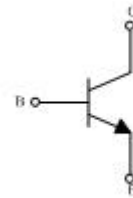
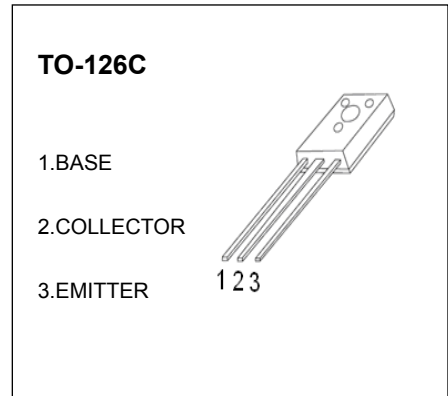
3DD13003 TRANSISTOR (NPN)

FEATURES

High total power dissipation

MAXIMUM RATINGS (Ta=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 -Continuous	1.5	A
P _C	Collector Power Dissipation	1.25	W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~150	°C



ELECTRICAL CHARACTERISTICS (Ta=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			1	mA
Collector cut-off current	I _{CEO}	V _{CE} =400V, I _B =0			0.5	mA
Emitter cut-off current	I _{EBO}	V _{EB} =9V, I _C =0			1	mA
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C = 0.5 A	8		40	
	h _{FE(2)}	V _{CE} =5V, I _C = 1.5A	5			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =1A, I _B =0.25A			1.2	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 ₀ =100mA, f =1MHz	5			MHz
Fall time	t _f	I _C =1A, I _{B1} =-I _{B2} =0.2A, V _{CC} =100V			0.5	μs
Storage time	t _s	I _C =1A, I _{B1} =-I _{B2} =0.2A, V _{CC} =100V			1	μs
Base-emitter voltage	V _{BE}	I _E =2A			1.2	V

7 @ 25°C: h_{FE}

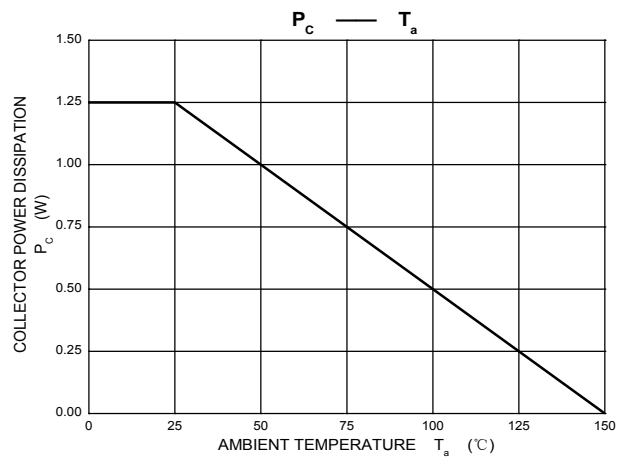
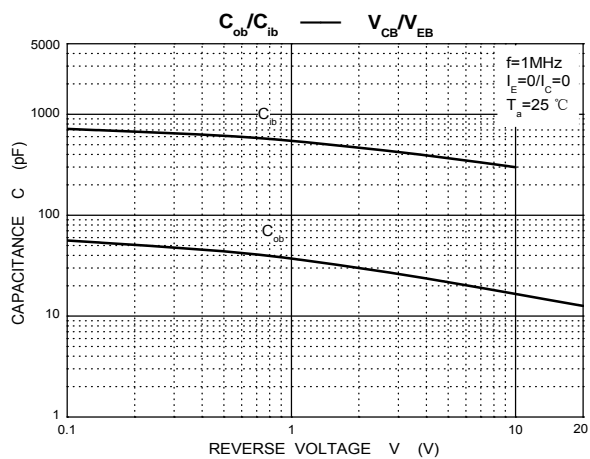
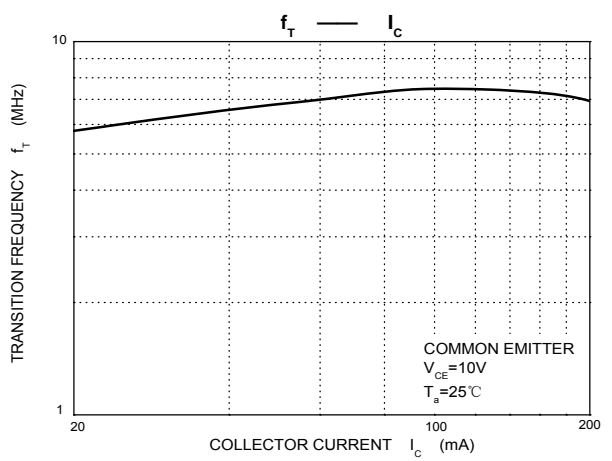
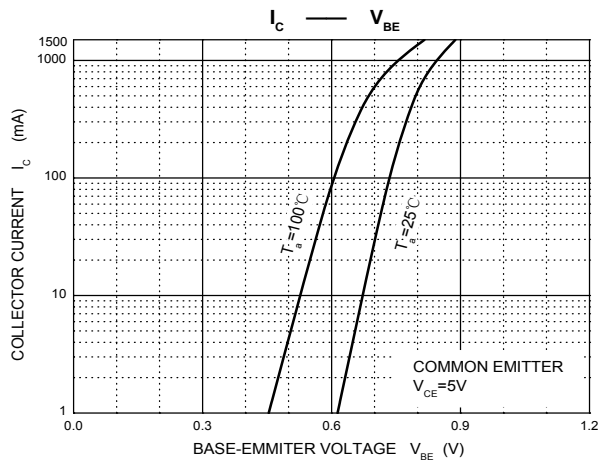
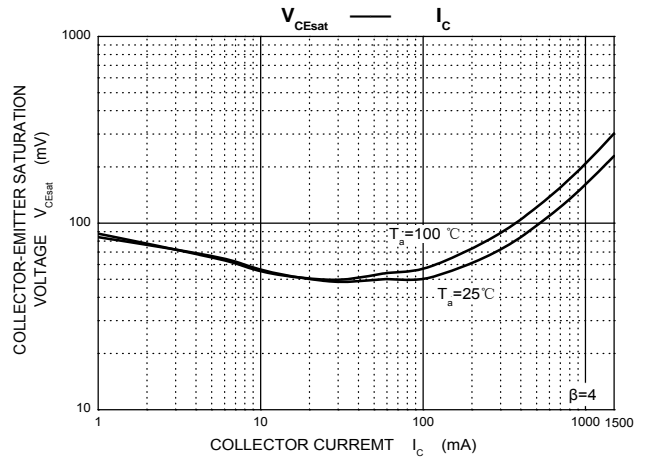
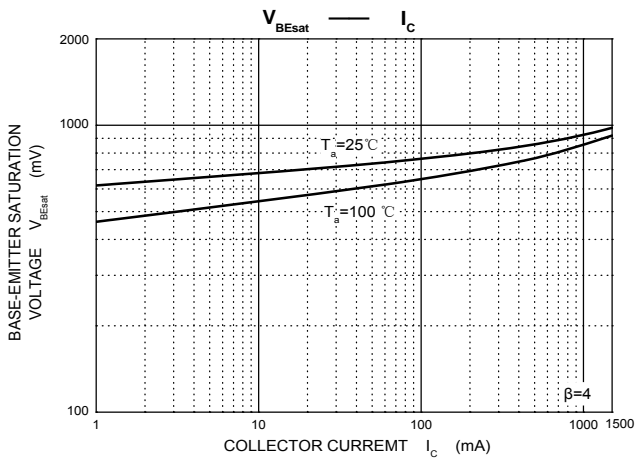
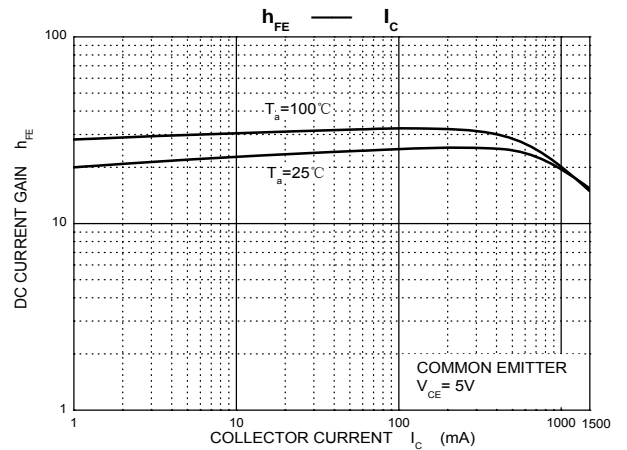
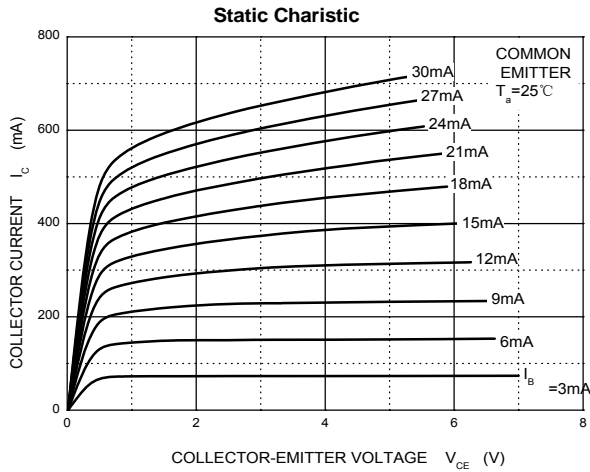
F _{ub}	8-10	10-15	15-20	20-25	25-30	30-35	35-40
F _{ub} [Y]							

CLASSIFICATION OF t_s

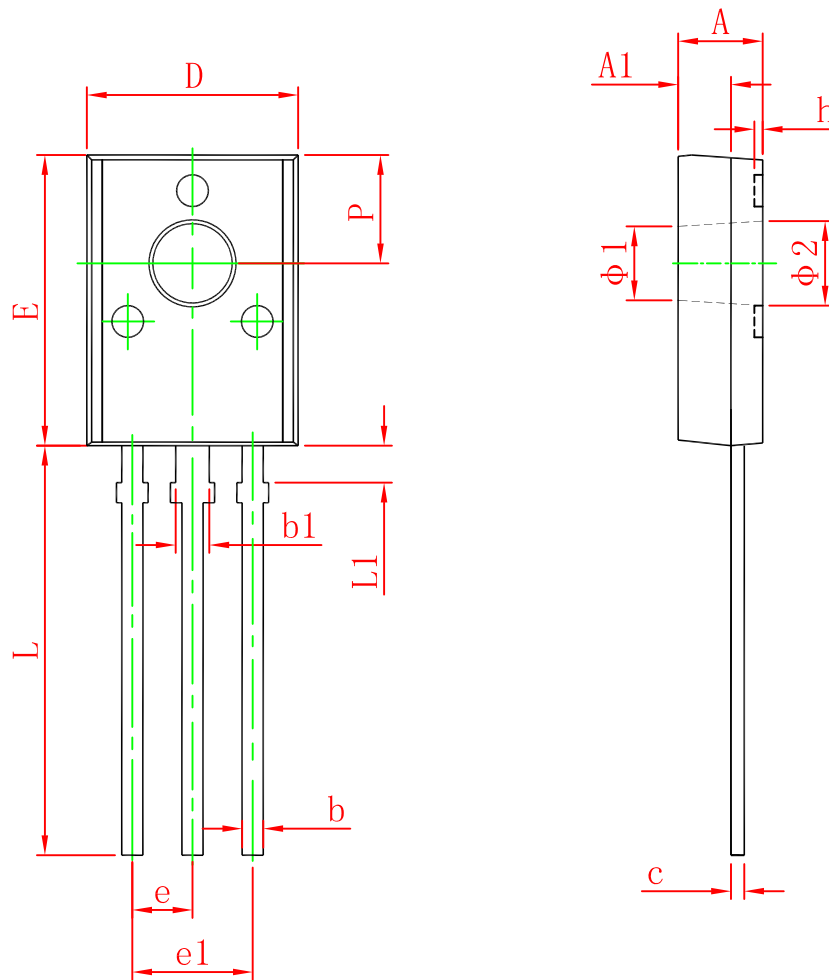
Rank	A1	A2	B1	B2
Range	2-2.5 (s)	2.5-3(s)	3-3.5(s)	3.5-4 (s)

Typical Characteristics

3DD13003



TO-126C Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	3.000	3.400	0.118	0.134
A1	1.800	2.200	0.071	0.087
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	7.800	8.200	0.307	0.323
E	10.800	11.200	0.425	0.441
e	2.280 TYP.		0.090 TYP.	
e1	4.460	4.660	0.176	0.183
L	15.300	15.700	0.602	0.618
L1	1.300	1.500	0.051	0.059
P	4.040	4.240	0.159	0.167
$\phi 1$	2.700	2.900	0.106	0.114
$\phi 2$	3.100	3.300	0.122	0.130