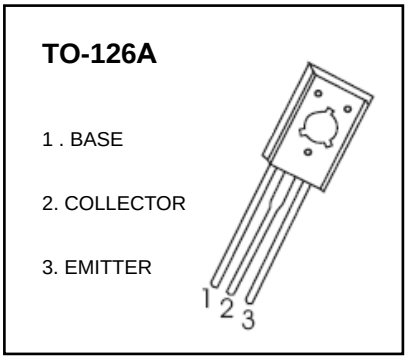
JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD.

TO-126A Plastic-Encapsulate Transistors

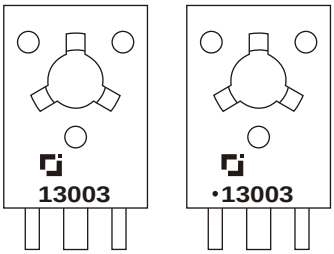
3DD13003 TRANSISTOR (NPN)



FEATURES

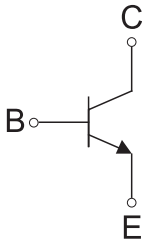
- Power switching applications

MARKING



Logo
13003=Device code
Solid dot = Green molding compound device, if none, the normal device

Equivalent Circuit



ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
3DD13003	TO-126A	Bulk	200pcs/Bag
3DD13003-TU	TO-126A	Tube	60pcs/Tube

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	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	1.5	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-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 =5mA, 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=2mA, 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_{FE1}	V_{CE}=5V, I_C= 0.5 A	20		40	
	h_{FE2}	V_{CE}=5V, I_C= 1.5A	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A,I_B=0.25A			0.6	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,Ic=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=250mA (UI9600)	2		4	μs

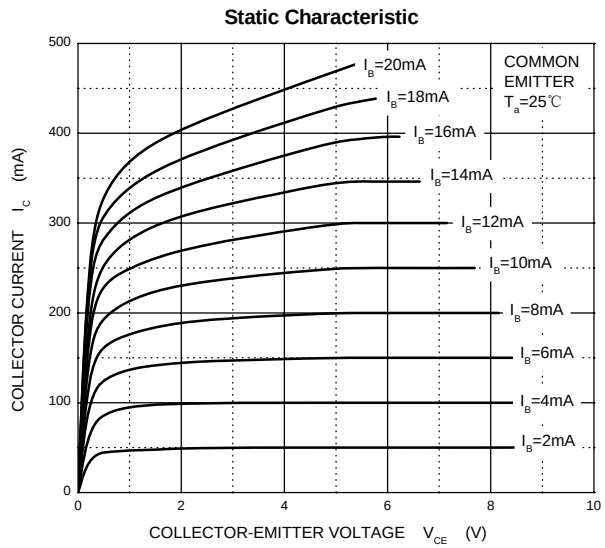
CLASSIFICATION OF $h_{FE(1)}$

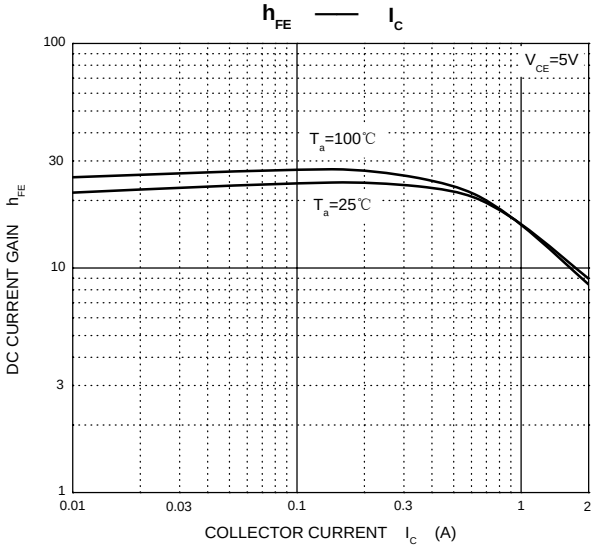
Range	20-30	30-40

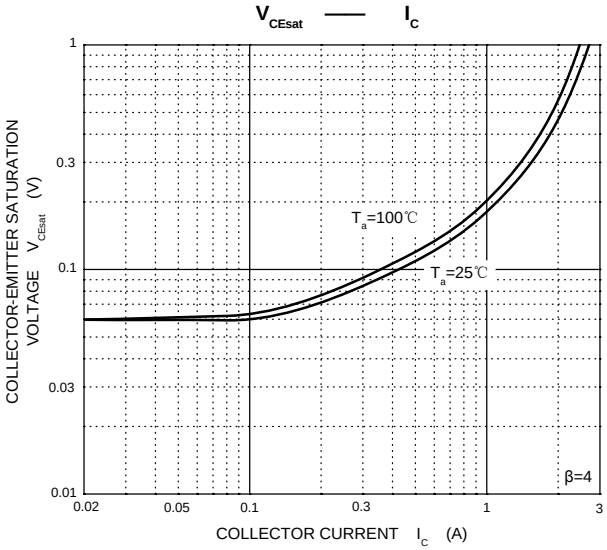
CLASSIFICATION OF t_S

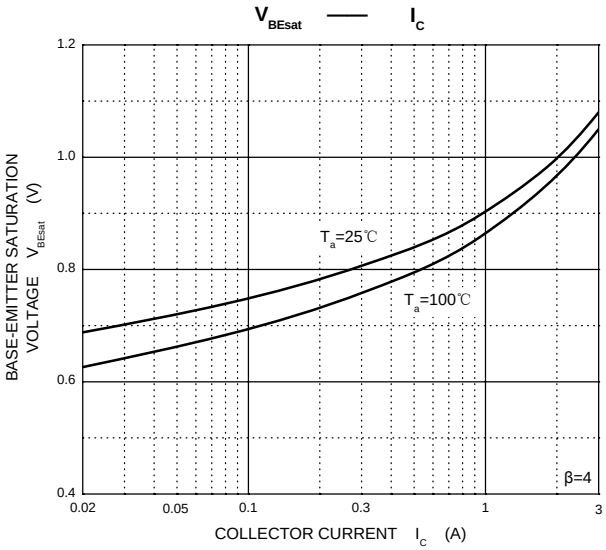
Rank	A	B
Range	2.0-3.0 (μs)	3.0-4.0(μs)

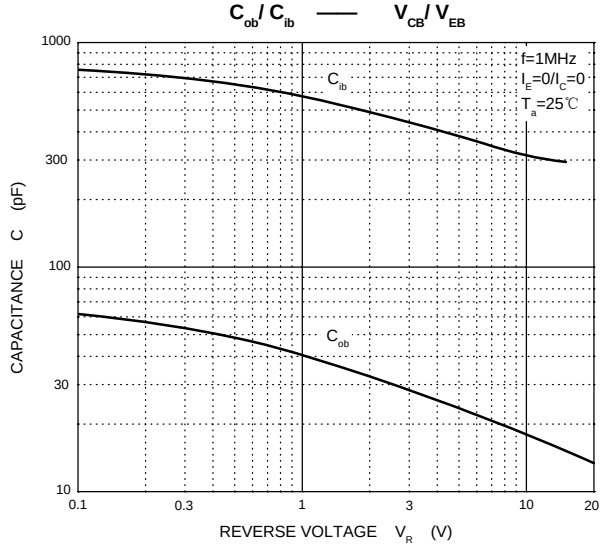
Typical Characteristics

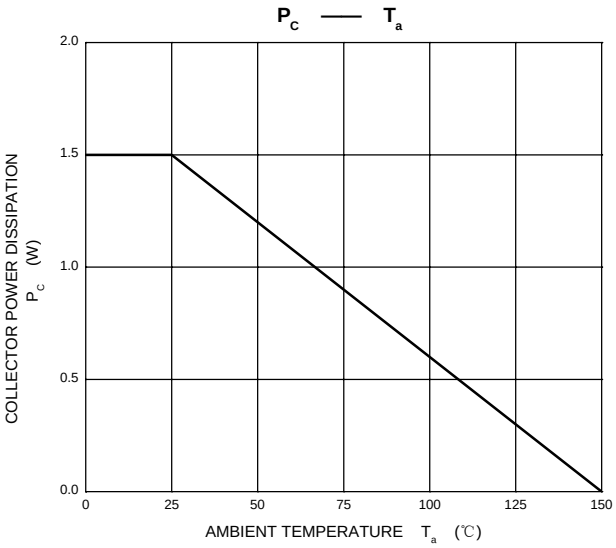




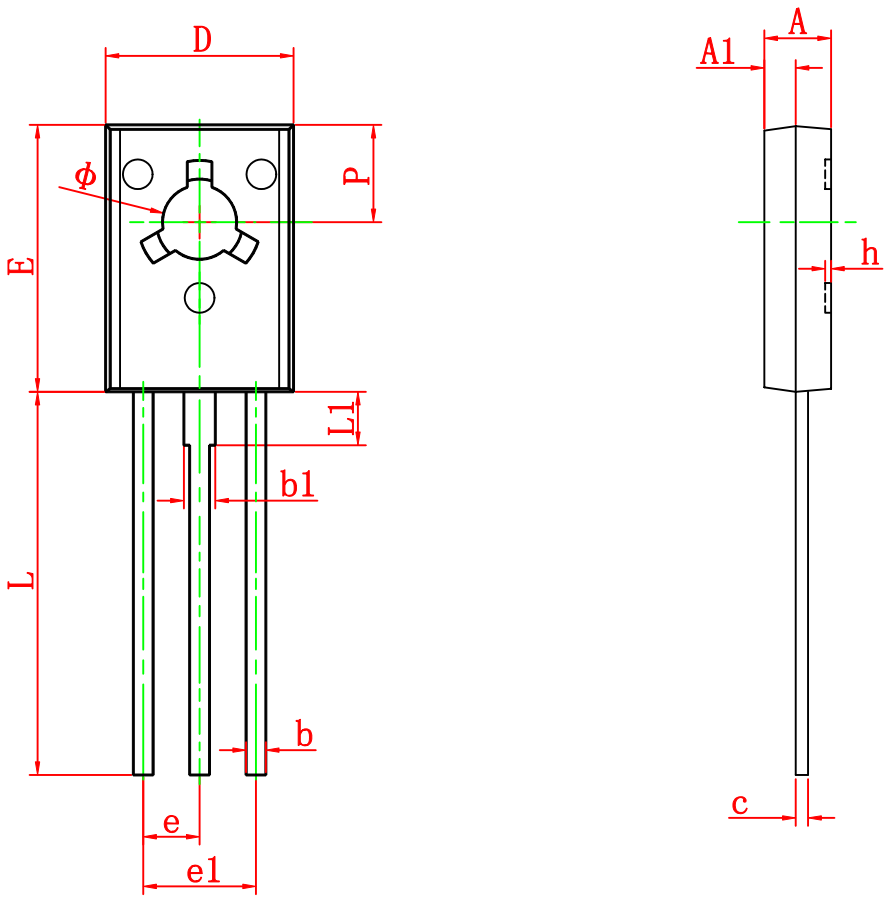








TO-126A Package Outline Dimensions



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	0.300	0.600	0.012	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