

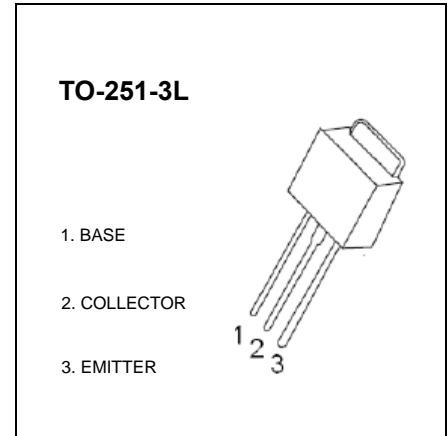


TO-251-3L Plastic-Encapsulate Transistors

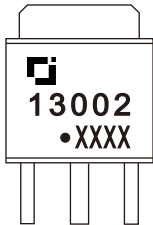
3DD13002 TRANSISTOR (NPN)

FEATURE

- Power Switching Applications

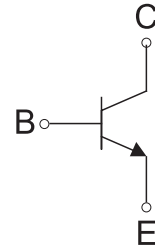


MARKING



13002=Device code
 Solid dot=Green moldinn compound device,
 if none,the normal device
 XXXX=Code

Equivalent Circuit



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector -Base Voltage	600	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	1	A
P _C	Collector Power Dissipation	1.25	W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~150	°C

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

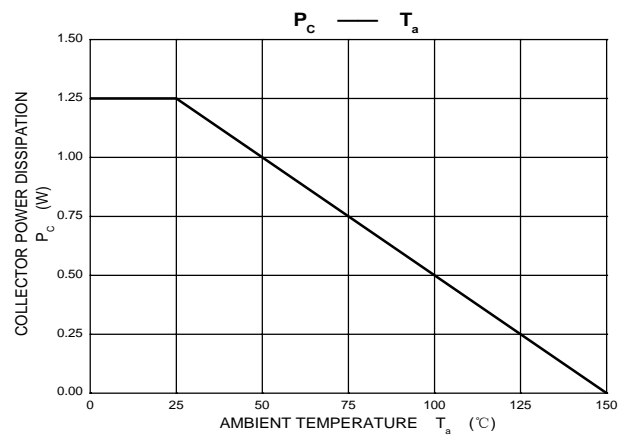
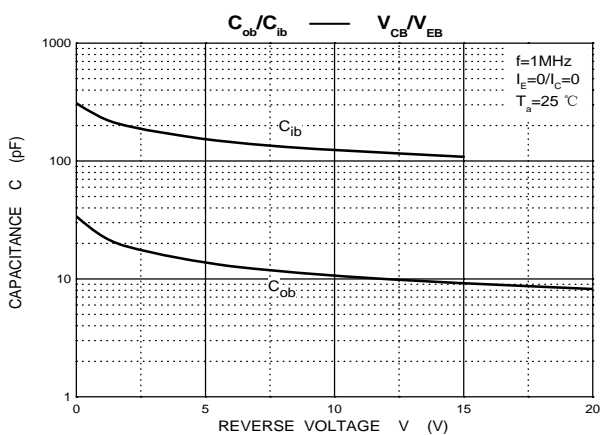
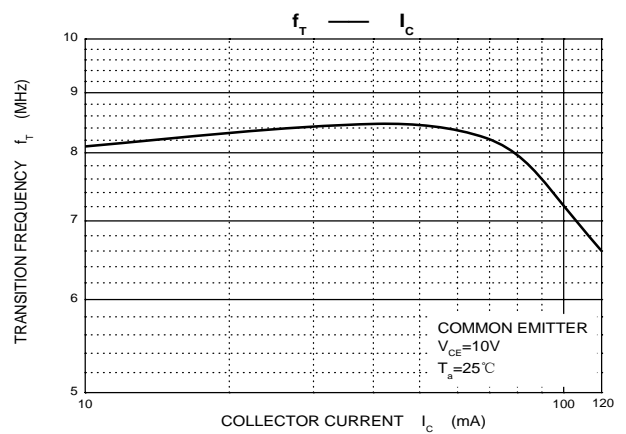
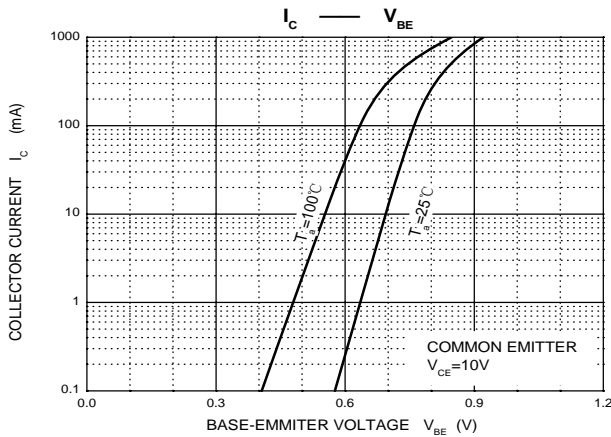
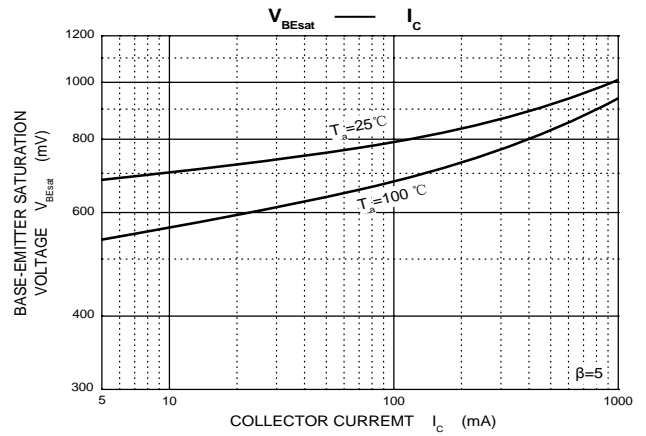
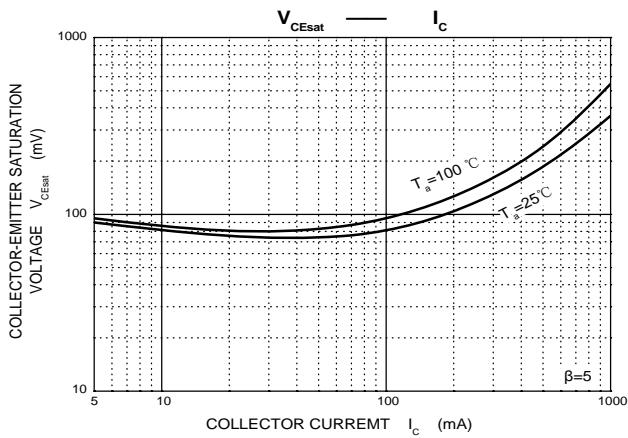
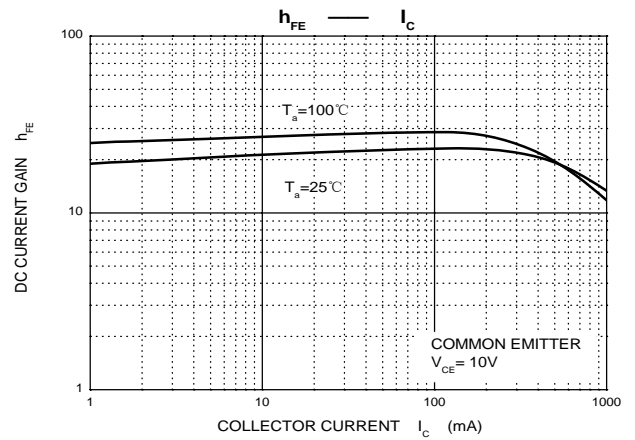
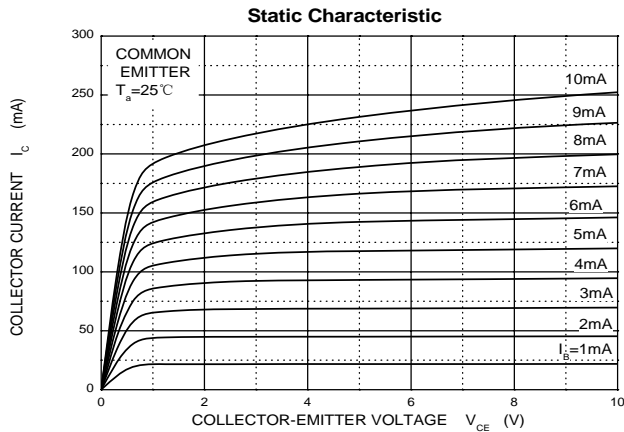
Parameter	Symbol	Test conditions	Min	Typ	M	
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 100μA, I _E =0	600			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 1mA, I _B =0	400			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 100μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} = 600V, I _E =0			100	μA
	I _{CEO}	V _{CB} = 400V, I _E =0			100	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 7V, I _C =0			100	μA
Dc current gain	h _{FE1}	V _{CE} = 10 V, I _C = 200mA	9		40	
	h _{FE2}	V _{CE} = 10 V, I _C = 0.25mA	5			
Collector-emitter saturation voltage	V _{CE(sat)}	I _C =200mA, I _B = 40mA			0.5	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =200mA, I _B = 40mA			1.1	V
Transition frequency	f _T	V _{CE} =10V, I _C =100mA f =1MHz	5			MHz
Fall time	t _f	I _C =1A, I _{B1} =-I _{B2} =0.2A			0.5	μs
Storage time	t _s		V _{CC} =100V			2.5

CLASSIFICATION OF h_{FE1}

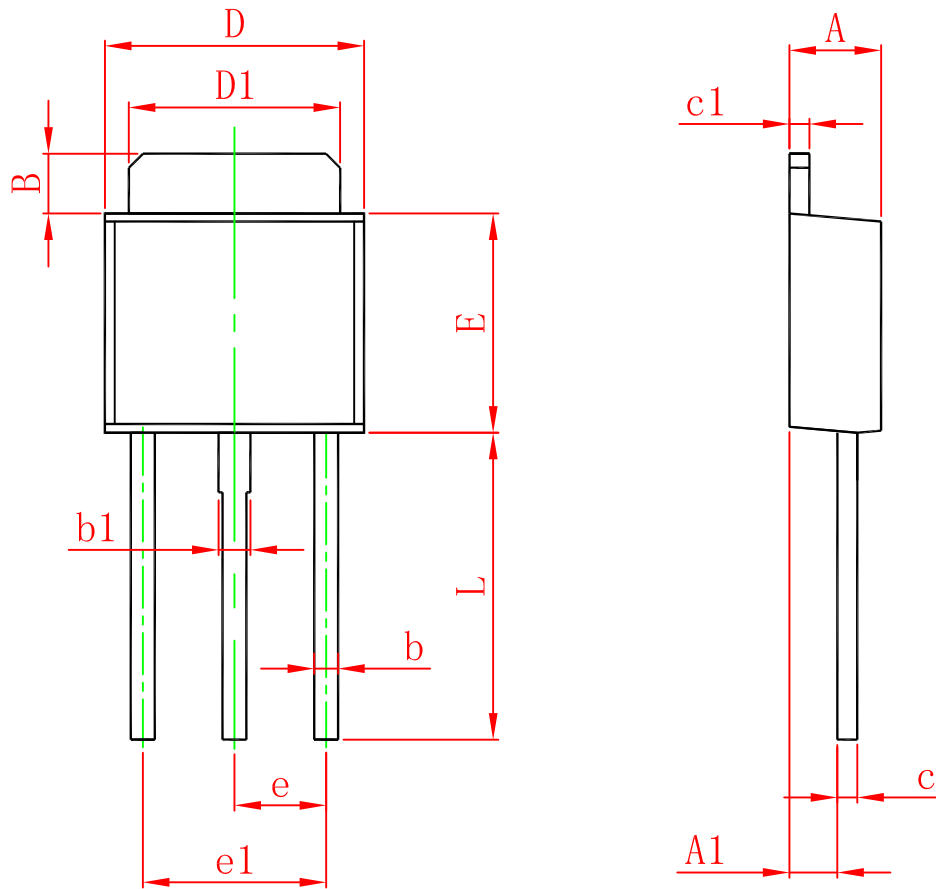
Range	9-15	15-20	20-25	25-30	30-35	35-40

Typical Characteristics

3DD13002



TO-251-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	1.050	1.350	0.042	0.054
B	1.350	1.650	0.053	0.065
b	0.500	0.700	0.020	0.028
b1	0.700	0.900	0.028	0.035
c	0.430	0.580	0.017	0.023
c1	0.430	0.580	0.017	0.023
D	6.350	6.650	0.250	0.262
D1	5.200	5.400	0.205	0.213
E	5.400	5.700	0.213	0.224
e	2.300 TYP.		0.091 TYP.	
e1	4.500	4.700	0.177	0.185
L	7.500	7.900	0.295	0.311