



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO.,LTD

TO-126 Plastic-Encapsulate Transistors

3DD13002 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 1.25 W ($T_{amb}=25$)

Collector current

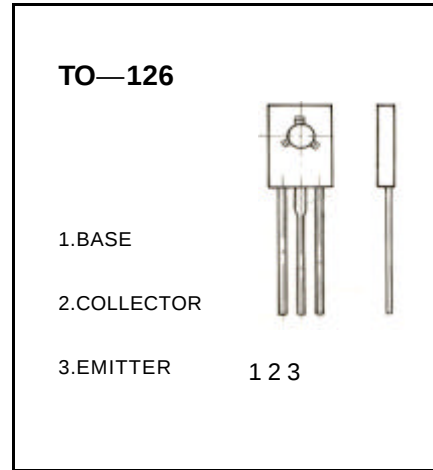
I_{CM} : 1 A

Collector-base voltage

$V_{(BR)CBO}$: 600 V

Operating and storage junction temperature range

T_J , T_{stg} : -55 to +150



ELECTRICAL CHARACTERISTICS ($T_{amb}=25$ unless otherwise specified)

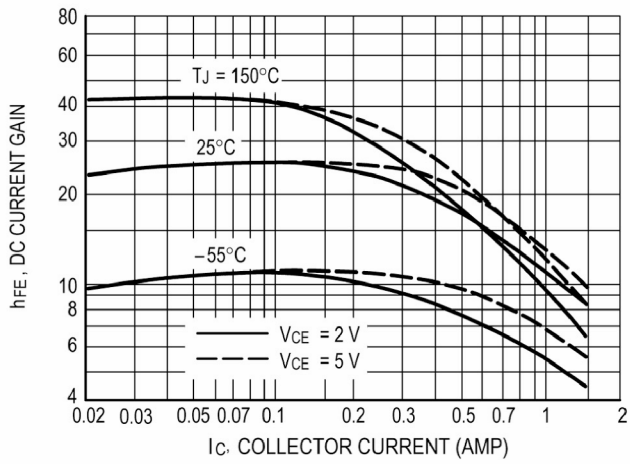
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = 100 \mu A$, $I_E = 0$	600			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = 1 mA$, $I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100 \mu A$, $I_C = 0$	6			V
Collector cut-off current	I_{CBO}	$V_{CB} = 600 V$, $I_E = 0$			100	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 6 V$, $I_C = 0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 10 V$, $I_C = 250 \mu A$	5			
	$h_{FE(2)}$	$V_{CE} = 10 V$, $I_C = 200 mA$	9		40	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 200 mA$, $I_B = 40 mA$			0.8	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 200 mA$, $I_B = 40 mA$			1.1	V
Transition frequency	f_T	$V_{CE} = 10 V$, $I_C = 100 mA$ $f = 1 MHz$	5			MHz
Fall time	t_f	$I_C = 1 A$, $I_{B1} = -I_{B2} = 0.2 A$			0.5	μs
Storage time	t_s	$V_{CC} = 100 V$			2.5	μs

CLASSIFICATION OF $h_{FE(2)}$

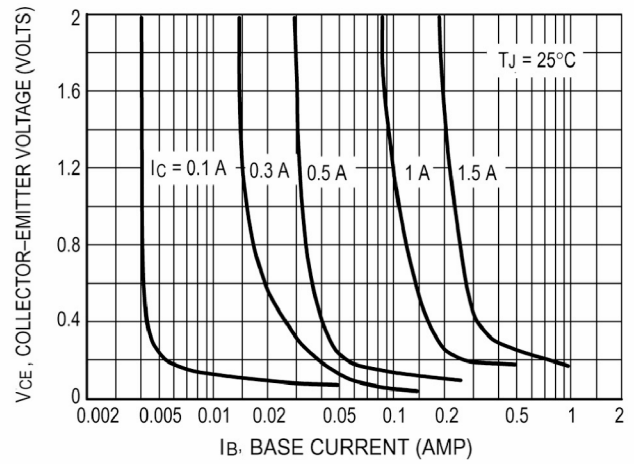
Rank						
Range	9-15	15-20	20-25	25-30	30-35	35-40

Typical Characteristics

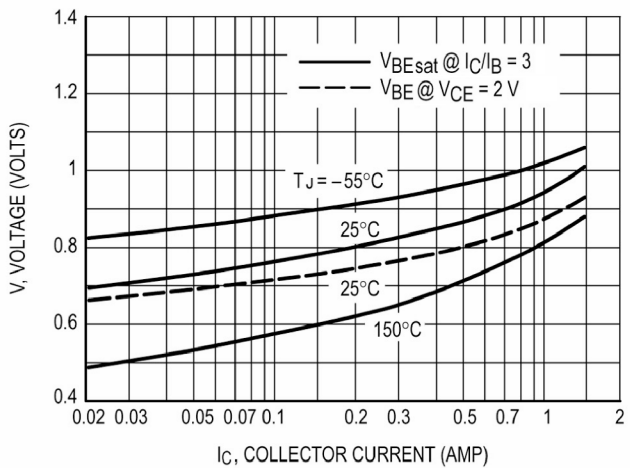
3DD13002



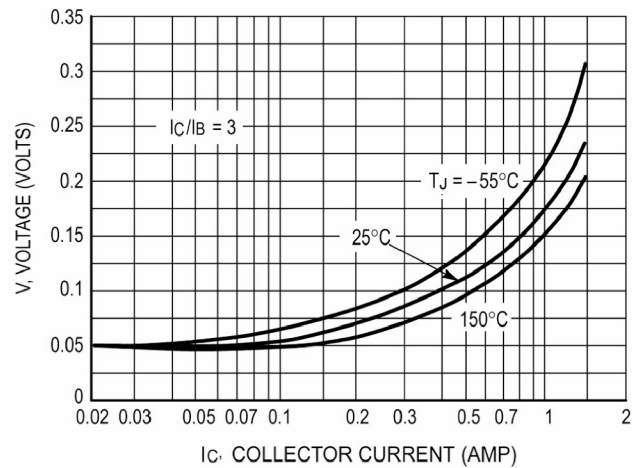
DC Current Gain



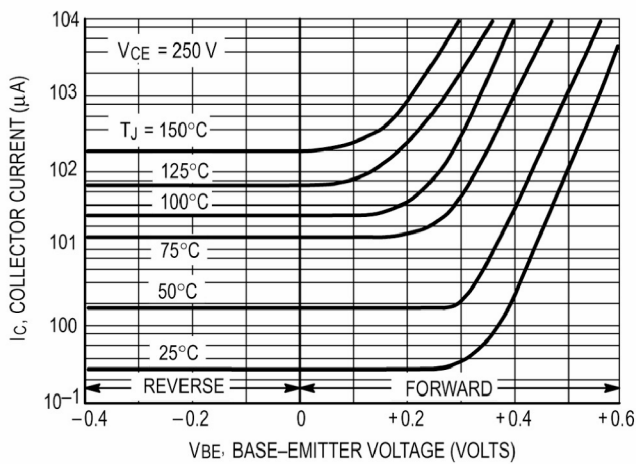
Collector Saturation Region



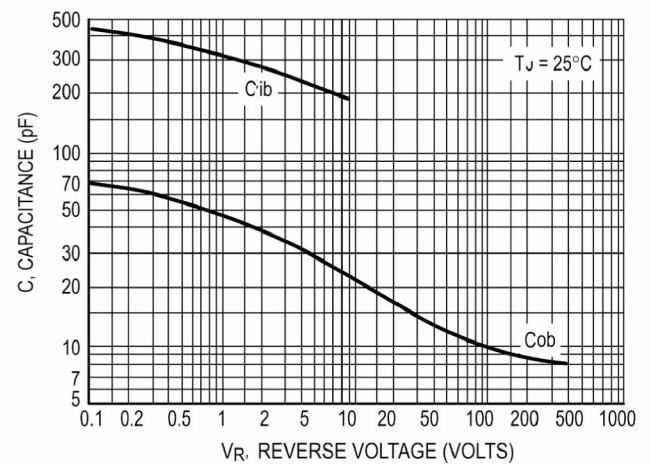
Base-Emitter Voltage



Collector-Emitter Saturation Region

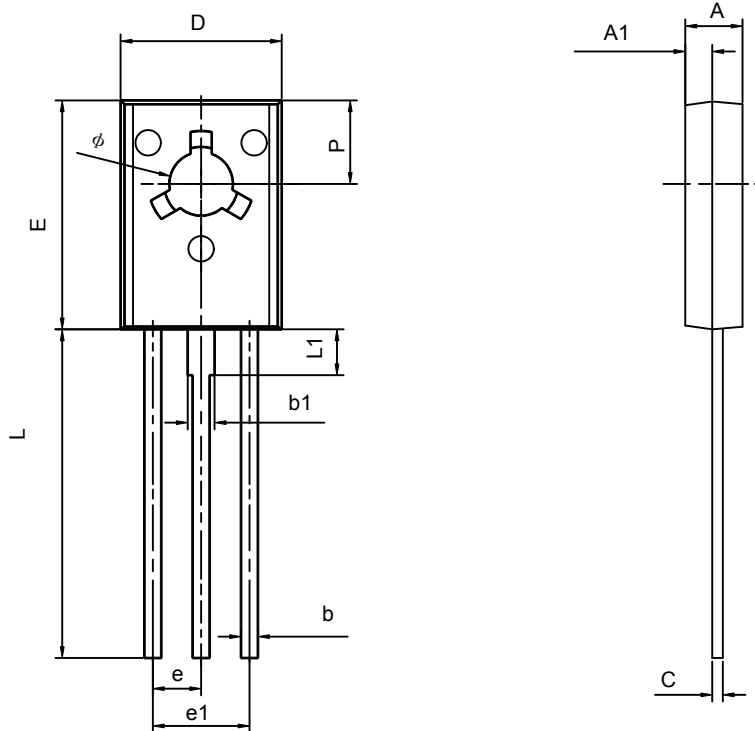


Collector Cutoff Region



Capacitance

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	2.290TYP		0.090TYP	
e1	4.480	4.680	0.176	0.184
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