JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-126 Plastic-Encapsulate Transistors

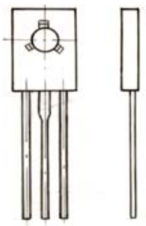
3DD13003 TRANSISTOR (NPN)

TO-126

1.BASE

2.COLLECTOR

3.EMITTER



FEATURES

- **High total power disspation.(p_c=1.25w)**

MAXIMUM RATINGS* T_A=25℃ unless otherwise noted

Symbol	Parameter	Value	Units
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 Dissipation	1.25	W
T_J, T_{stg}	Junction and Storage Temperature	-55-150	℃

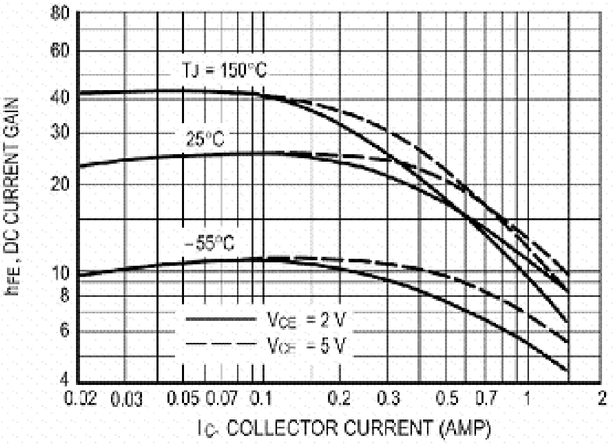
ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	Ic= 1000uA, I_E=0	700			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	Ic= 10 mA, 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			1000	µA
Collector cut-off current	I_{CEO}	V_{CE}= 400V, $_B$=0			500	µA
Emitter cut-off current	I_{EBO}	V_{EB}= 9 V, I_C=0			1000	µA
DC current gain	$h_{FE(1)}$	V_{CE}= 5 V, I_C= 0.5 A	8		40	
	$h_{FE(2)}$	V_{CE}= 5 V, I_C= 1.5 A	5			
Collector-emitter saturation voltage	$V_{CE}(sat)$	I_C=1000mA,I_B= 250 mA			1	V
Base-emitter saturation voltage	$V_{BE}(sat)$	I_C=1000mA, I_B= 250mA			1.2	V
Base-emitter voltage	V_{BE}	I_E= 2000 mA			3	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				2.5	µs

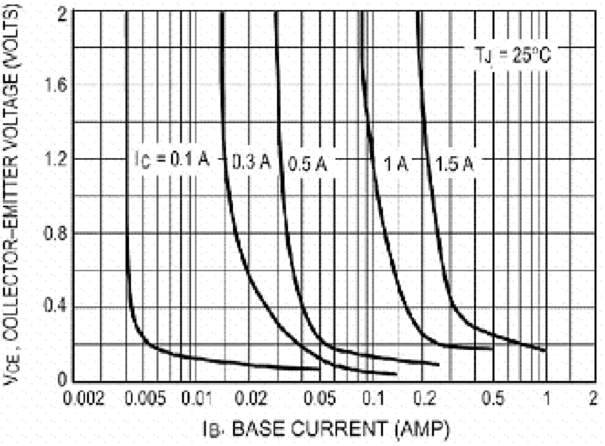
CLASSIFICATION OF h_{FE} **(1)**

Rank							
Range	8-10	10-15	15-20	20-25	25-30	30-35	35-40

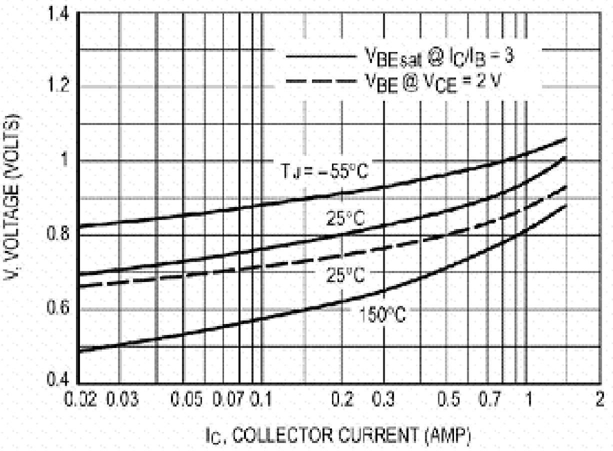
Typical Characteristics 3DD13003



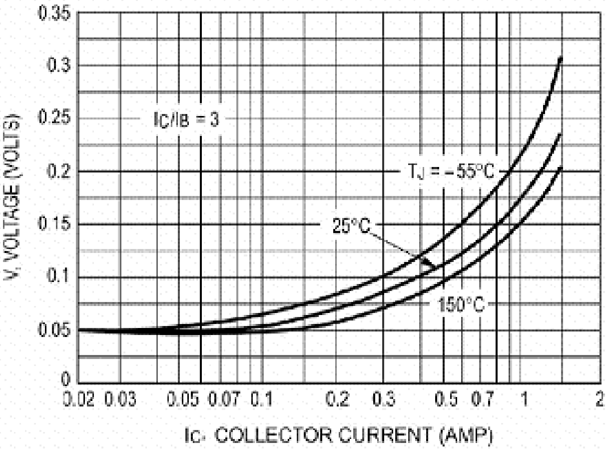
DC Current Gain



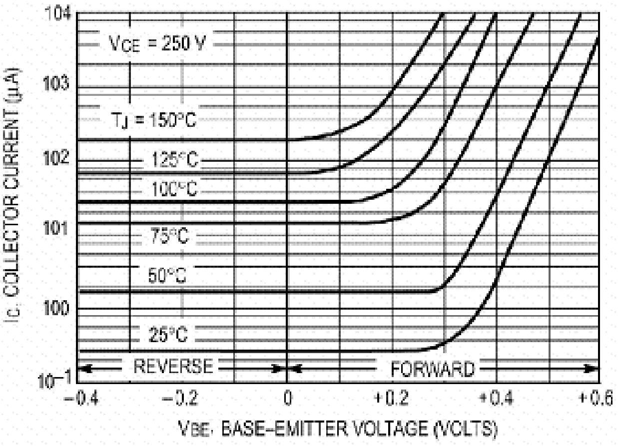
Collector Saturation Region



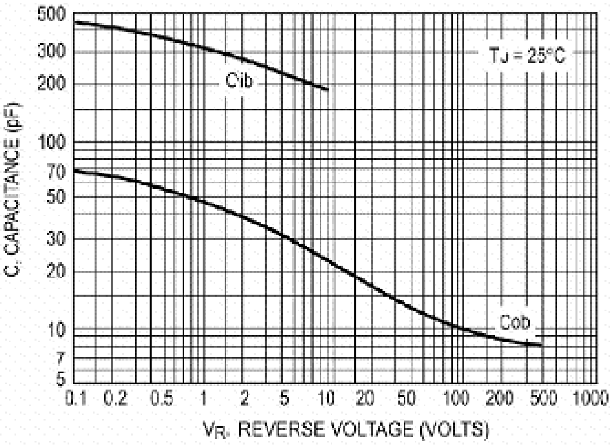
Base–Emitter Voltage



Collector–Emitter Saturation Region



Collector Cutoff Region



Capacitance