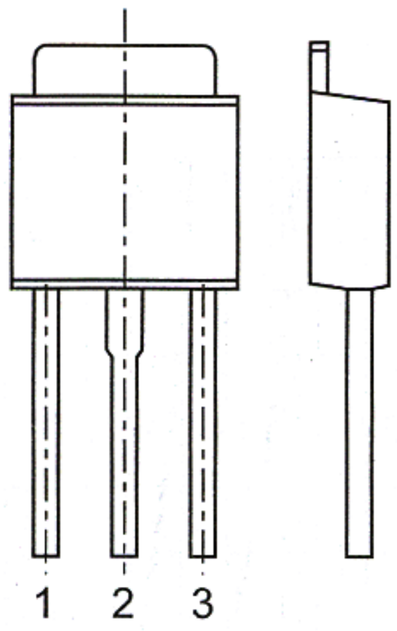
TO-251 Plastic-Encapsulate Transistors

3DD13002 TRANSISTOR(NPN)



TO-251

1.BASE

2.COLLECTOR

3.EMITTER

FEATURES

Power dissipation

P_{CM}: 1.25W (Tamb=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

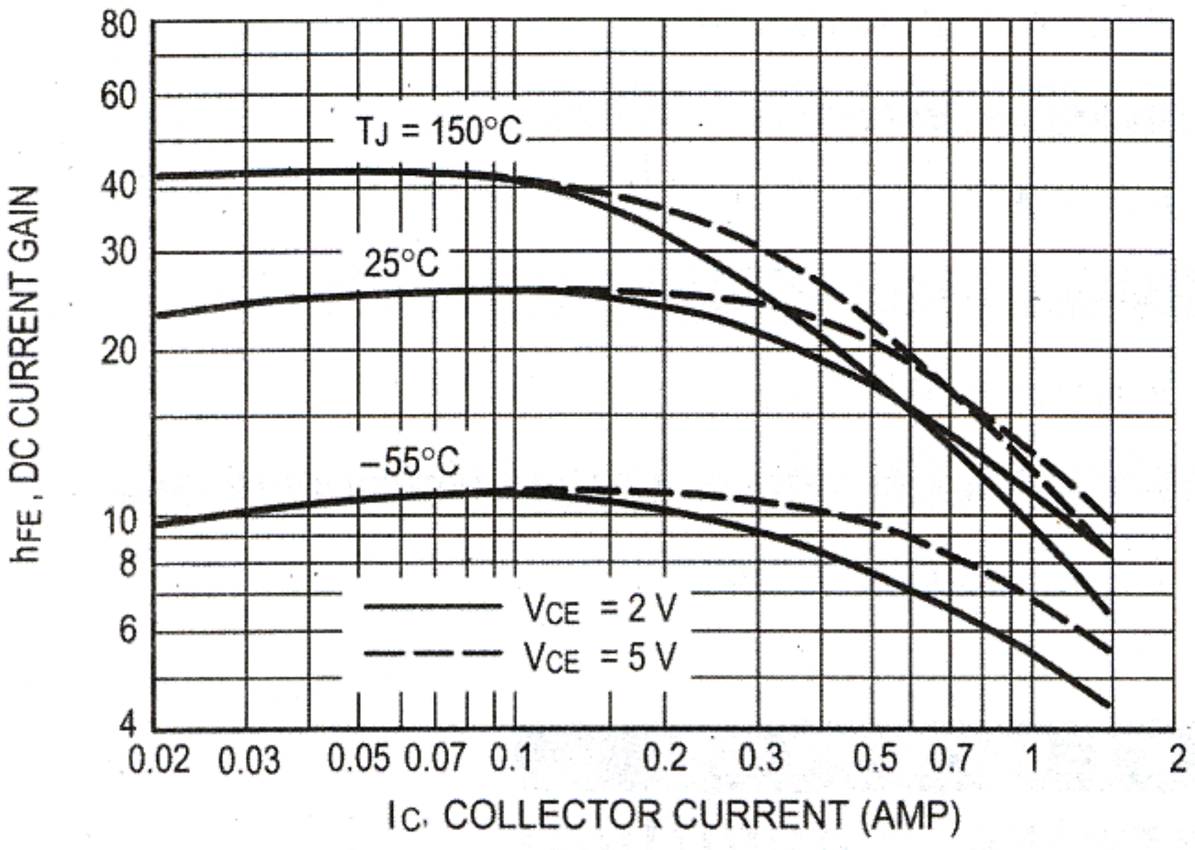
(Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 100 μ 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 μ A, I_C=0	6		V
Collector cut-off current	I_{CBO}	V_{CB}= 600 V, I_E=0		100	μ A
Emitter cut-off current	I_{EBO}	V_{EB}= 6 V, I_C=0		100	μ A
DC current gain	$h_{FE(1)}$	V_{CE}= 10 V, I_C= 100 mA	8	60	
	$h_{FE(2)}$	V_{CE}= 10 V, I_C= 200 mA	9	40	
	$h_{FE(3)}$	V_{CE}= 10 V, I_C= 10 mA	6		
Collector-emitter saturation voltage	V_{CEsat}	I_C= 200 mA, I_B= 40 mA		0.8	V
Base-emitter voltage	V_{BEsat}	I_C= 200 mA, I_B= 40 mA		1.1	V
Transition frequency	f_T	V_{CE}= 10 V, I_C= 100 mA f =1MHz	5		MHz
Fall time	t_f	I_C= 1 A, I_{B1}= -I_{B2}= 0.2 A,		0.5	μ S
Storage time	t_s	V_{CC}=100V		2.5	μ S

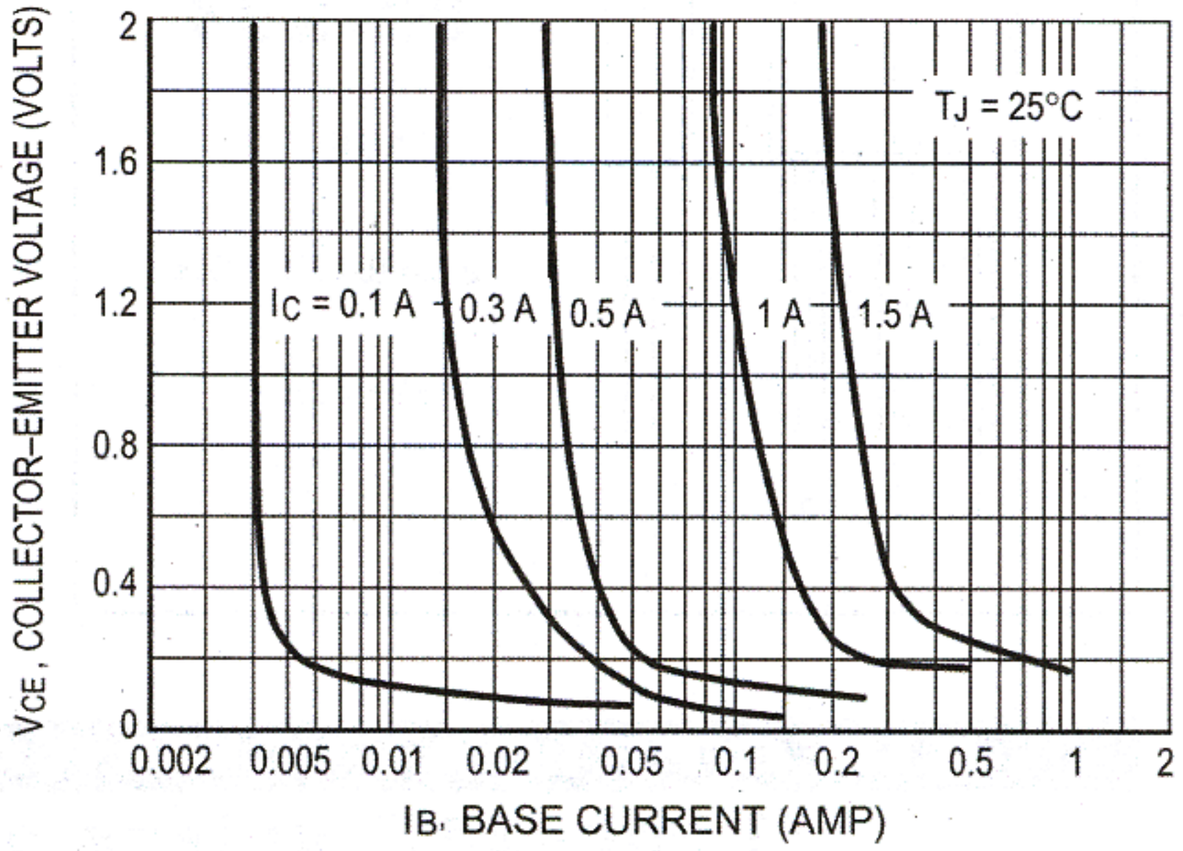
CLASSIFICATION OF $h_{FE(2)}$

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

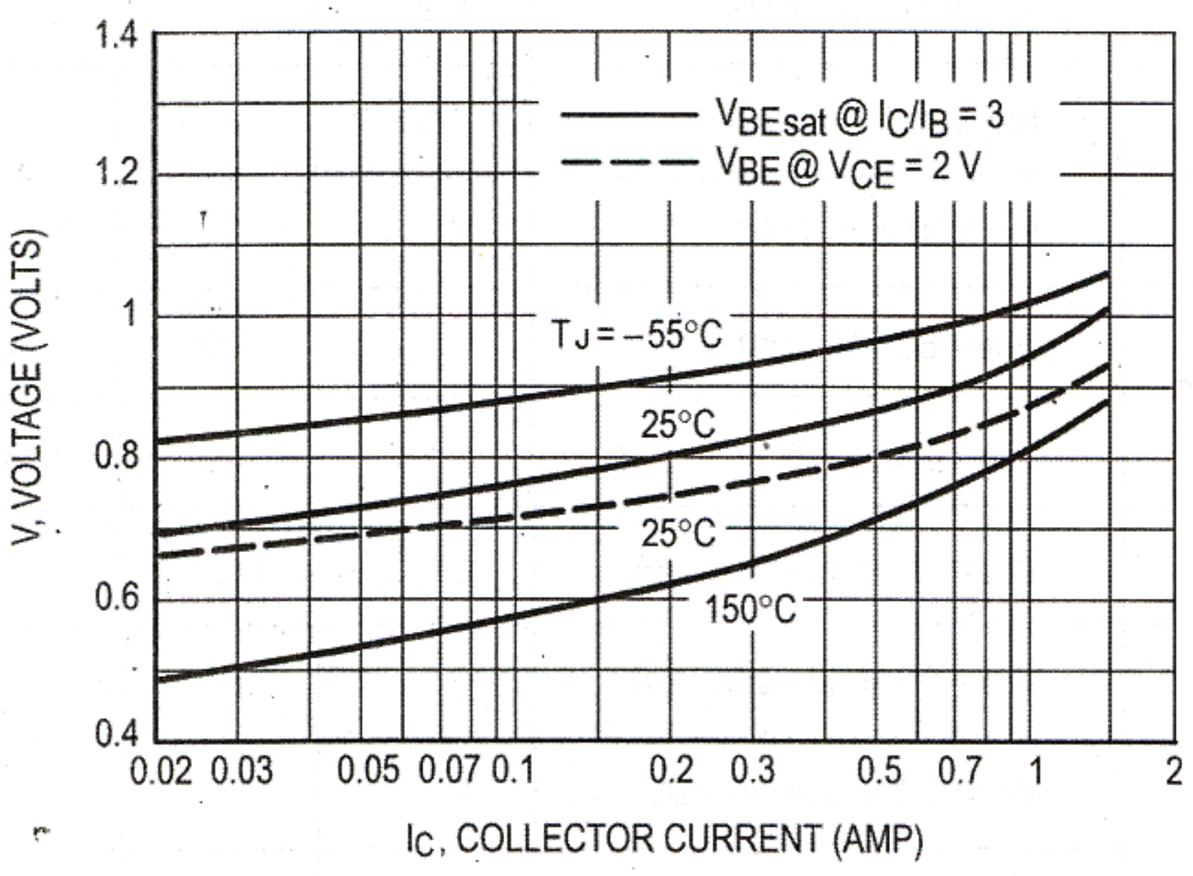
Typical Characteristics



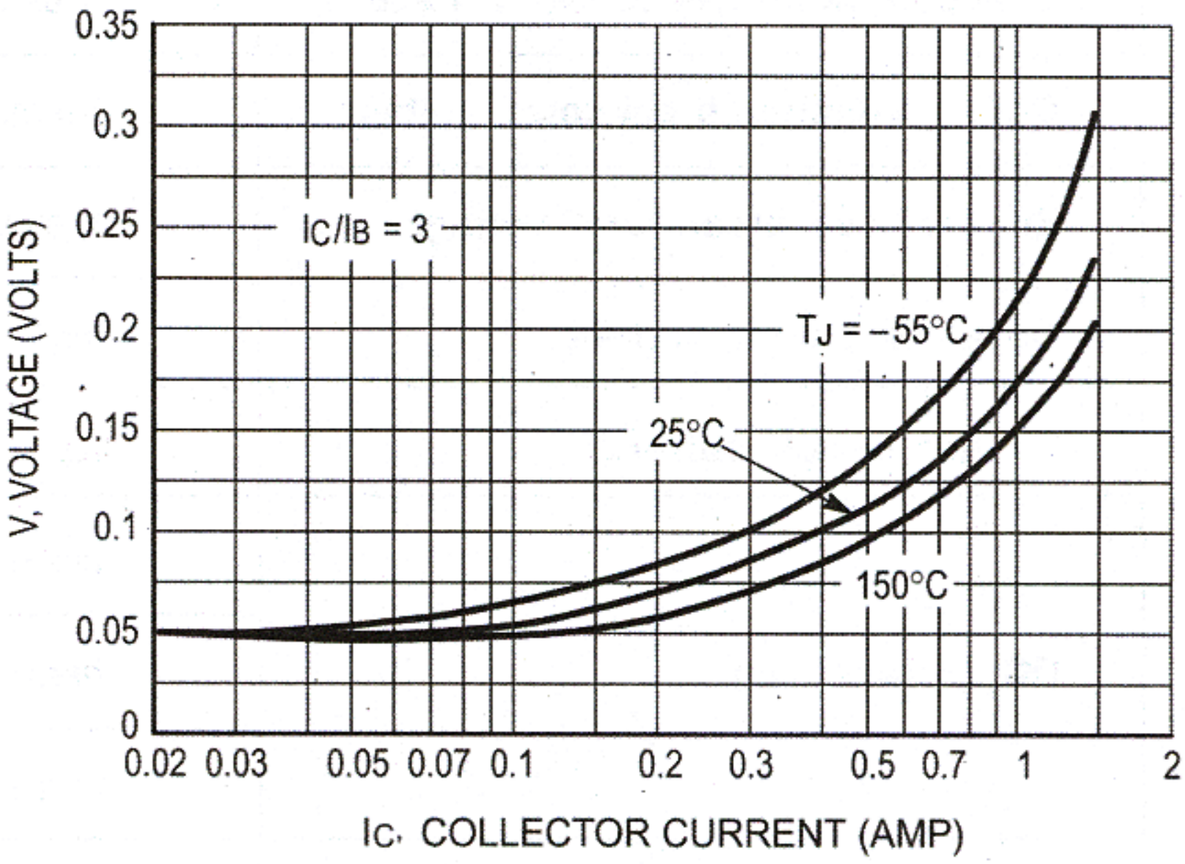
DC Current Gain



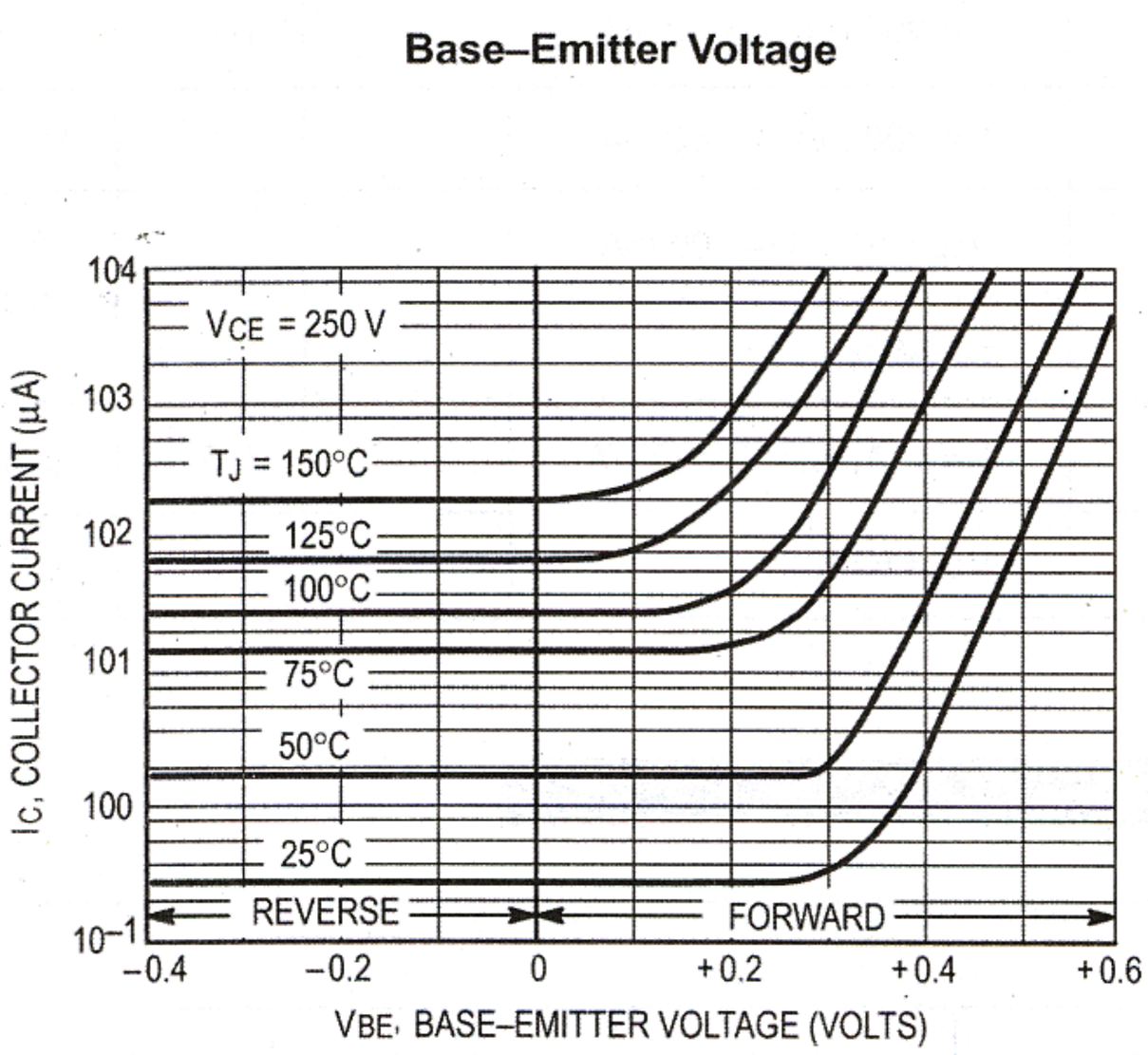
Collector Saturation Region



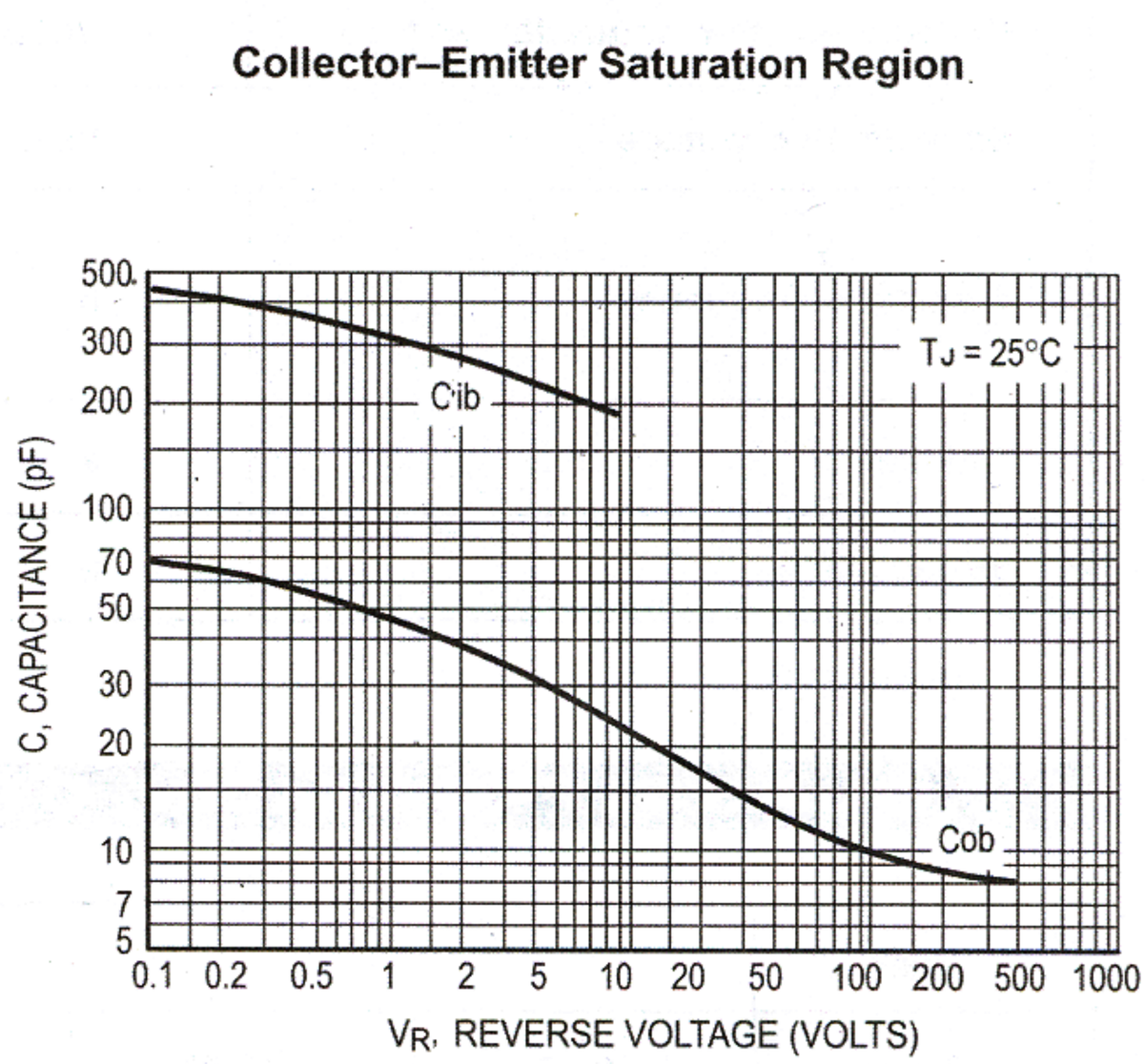
Base–Emitter Voltage



Collector–Emitter Saturation Region



Collector Cutoff Region



Capacitance