3DD13003N3 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

TO-126

FEATURES

- Power switching applications
- Good high temperature
- Low saturation voltage
- High speed switching

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
3DD13003N3	TO-126	Bulk	200pcs/Bag
3DD13003N3-TU	TO-126	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	1.5	A
P_C	Collector Power Dissipation	1.25	W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	100	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 1mA,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=1mA,I_C=0	9			V
Collector cut-off current	I_{CBO}	V_{CB}=700V,I_E=0			10	μA
Collector cut-off current	I_{CEO}	V_{CE}=400V,I_B=0			50	μA
Emitter cut-off current	I_{EBO}	V_{EB}=9V,I_C=0			10	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V, I_C=0.2A	10		40	
	$h_{FE(2)}$	V_{CE}=5V, I_C=1mA	8			
	$h_{FE(3)}$	V_{CE}=5V, I_C=1.5A	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1A,I_B=0.2A			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=1A,I_B=0.25A			1.5	V
Storage time	t_S	I_C=250mA (UI9600)	2		4	μs

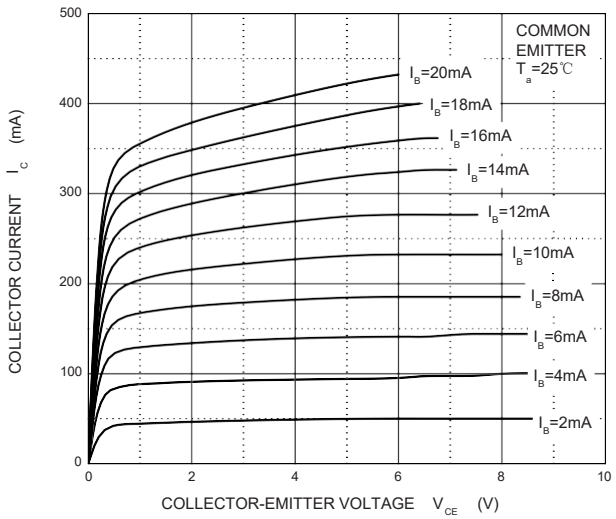
CLASSIFICATION OF $h_{FE(1)}$

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

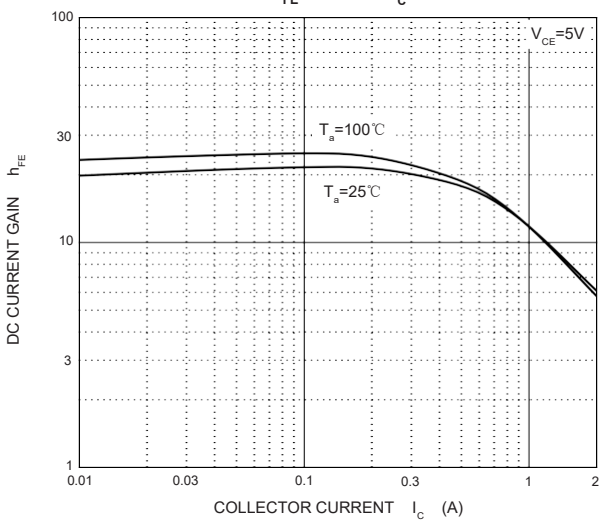
CLASSIFICATION OF t_S

Rank	A1	A2	B1	B2
Range	2-2.5 (μs)	2.5-3(μs)	3-3.5(μs)	3.5-4 (μs)

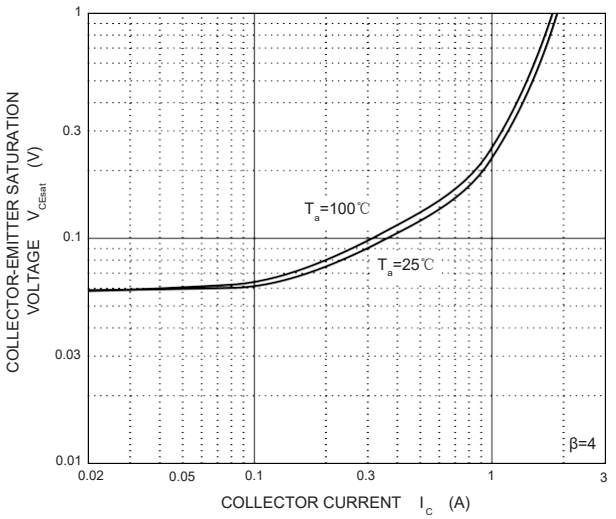
Static Characteristic



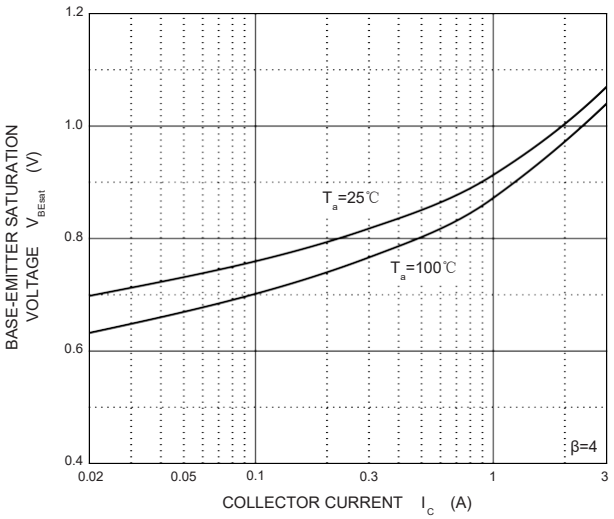
h_{FE} —— I_C



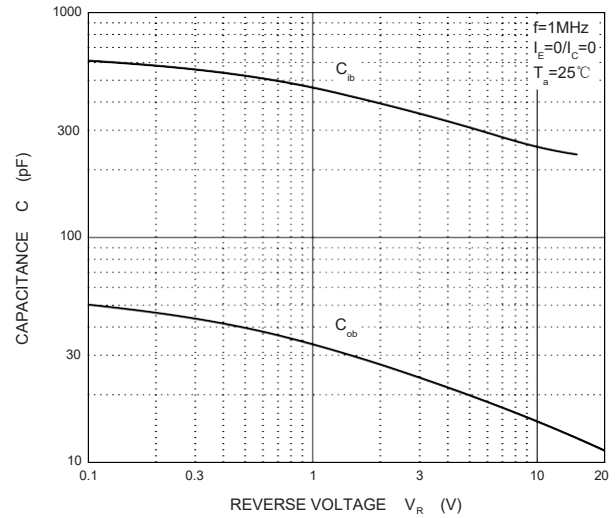
V_{CEsat} —— I_C



V_{BEsat} —— I_C



C_{ob} / C_{ib} —— V_{CB} / V_{EB}



P_C —— T_a