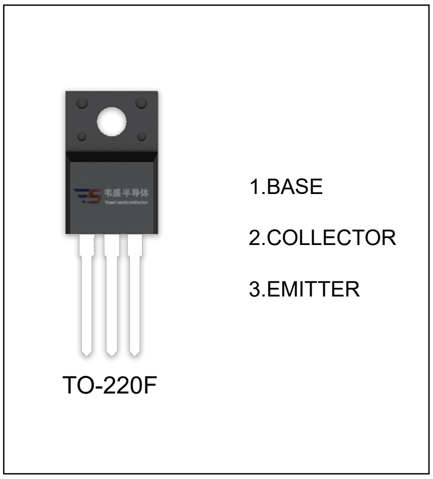
3DD13007N36F TRANSISTOR (NPN)

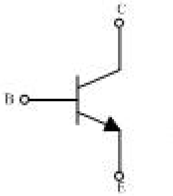


FEATURES

- Power switching applications

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 -Continuous	8	A
P_C	Collector Power Dissipation	2	W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~150	℃



ELECTRICAL CHARACTERISTICS (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			100	μA
Collector cut-off current	I_{CEO}	V_{CE}=400V,I_B=0			100	μA
Emitter cut-off current	I_{EBO}	V_{EB}=9V,I_C=0			100	μA
DC current gain	$h_{FE(1)}$	V_{CE}=5V, I_C=2A	10		40	
	$h_{FE(2)}$	V_{CE}=5V, I_C=8A	5			
Collector-emitter saturation voltage	$V_{CE(sat)1}$	I_C=2A,I_B=0.4A			1	V
	$V_{CE(sat)2}$	I_C=5A,I_B=1A			2	V
	$V_{CE(sat)3}$	I_C=8A,I_B=2A			3	V
Base-emitter saturation voltage	$V_{BE(sat)1}$	I_C=2A,I_B=0.4A			1.2	V
	$V_{BE(sat)2}$	I_C=5A,I_B=1A			1.6	V
Storage time	t_S	I_C=500mA (UI9600)	3		6	μs
Fall time	t_f	I_C=500mA (UI9600)			0.5	μs
Transition frequency	f_T	V_{CE}=10V, I_C=0.5A,f=1MHz	4			MHz

CLASSIFICATION OF $h_{FE(1)}$

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

CLASSIFICATION OF t_S

Rank	A	B	C
Range	3-4(μs)	4-5(μs)	5-6 (μs)