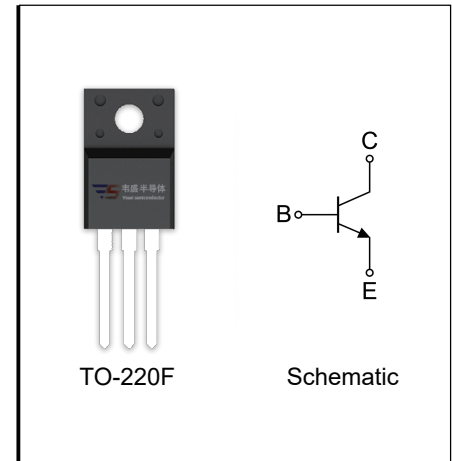


13005ND66F

TRANSISTOR (NPN)

FEATURE

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



MAXIMUM RATINGS (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	420	V
V_{EBO}	Emitter-Base Voltage	9	V
I_C	Collector Current -Continuous	4	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	°C/W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

ELECTRICAL CHARACTERISTICS (T_a=25°C 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	420			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} =7V, I _C =0			100	μA
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C =1A	10		40	
	h _{FE(2)}	V _{CE} =5V, I _C =200mA	10		60	
	h _{FE(3)}	V _{CE} =5V, I _C =10mA	5			
	h _{FE(4)}	V _{CE} =5V, I _C =4A	8		40	
Collector-emitter saturation voltage	V _{CE(sat)(1)}	I _C =1A, I _B =0.2A			0.3	V
	V _{CE(sat)(2)}	I _C =2A, I _B =0.4A	0.15		0.35	V
	V _{CE(sat)(3)}	I _C =4A, I _B =1A			0.8	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C =2A, I _B =0.5A			1.6	V
Diode forward voltage	V _{FEC}	I _C =2A			2	V
Transition frequency	f _T	V _{CE} =10V, I _C =0.5A, f=1MHz	5			MHz
Rise time	t _r	I _C =250mA			0.5	μs
Storage time	t _s	I _C =250mA	2.0		4.0	
Fall time	t _f	I _C =250mA			0.5	

CLASSIFICATION of h_{FE(2)}

Range	20~30	30~40
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CLASSIFICATION of t_s(μs)

Rank	A	B
Range	2.0-3.0	3.0-4.0

Static Characteristic
