

TO-263-3L Plastic-Encapsulate Transistors

3DD13005 TRANSISTOR (NPN)

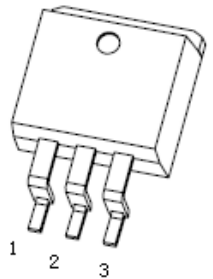
FEATURES

Power switching applications

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current -Continuous	4	A
P _C	Collector Power Dissipation	2	W
R _{θJA}	Thermal Resistance from Junction to Ambient	62.5	°C/W
T _J	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55~+150	°C

TO-263-3L



- 1. BASE
- 2. COLLECTOR
- 3. EMITTER

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	400			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 1mA, I _C =0	9			V
Collector cut-off current	I _{CB0}	V _{CB} =700V, I _E =0			1	mA
Collector cut-off current	I _{CEO}	V _{CE} =400V, I _B =0			0.1	mA
Emitter cut-off current	I _{EBO}	V _{EB} =7V, I _C =0			0.05	mA
DC current gain	h _{FE(1)}	V _{CE} =5V, I _C =1A	10		60	
	h _{FE(2)}	V _{CE} =5V, I _C =10mA	5			
	h _{FE(3)}	V _{CE} =5V, I _C =2A	8			
Collector-emitter saturation voltage	V _{CE(sat)1}	I _C =1A, I _B =0.2A			0.3	V
	V _{CE(sat)2}	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
Transition frequency	f _T	V _{CE} =10V, I _C =500mA, f=1MHz	5			MHz
Storage time	t _S	I _C =250mA	2.5		5	us

CLASSIFICATION of h_{FE(1)}

Range	10-15	15-20	20-25	25-30	30-35	35-40	40-45	45-50	50-55	55-60

CLASSIFICATION of t_S

Rank	A	B1	B2	C1	C2
Range	2.5-3	3-3.5	3.5-4	4-4.5	4.5-5