



TO-220 Plastic-Encapsulate Transistors

3DD13007 TRANSISTOR (NPN)

FEATURES

Power dissipation

P_{CM} : 2 W ($T_{amb}=25^{\circ}C$)

Collector current

I_{CM} : 8 A

Collector-base voltage

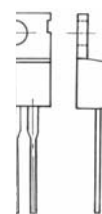
$V_{(BR)CBO}$: 700 V

Operating and storage junction temperature range

T_J, T_{stg} : $-55^{\circ}C$ to $+150^{\circ}C$

TO-220

1. BASE
2. COLLECTOR
3. EMITTER



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}C$ 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_{CBO}	$V_{CB} = 700V, I_E = 0$			1	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = 9V, I_C = 0$			100	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 5V, I_C = 2A$	8		40	
	$h_{FE(2)}$	$V_{CE} = 5V, I_C = 5A$	5		30	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2A, I_B = 0.4A$			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = 2A, I_B = 0.4A$			1.2	V
Transition frequency	f_T	$I_C = 500mA, V_{CE} = 10V, f = 1MHz$	4			MHz
Collector output capacitance	C_{ob}	$V_{CE} = 10V, I_E = 0, f = 0.1MHz$		80		pF
Fall time	t_f	$V_{CC} = 125V, I_C = 5A$ $I_{B1} = -I_{B2} = 1A$			0.7	μs
Storage time	t_s				3	μs

CLASSIFICATION OF $h_{FE(1)}$

Rank						
Range	8-15	15-20	20-25	25-30	30-35	35-40