



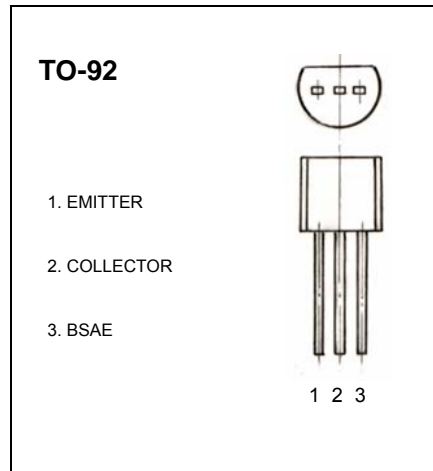
2SD1616A TRANSISTOR (NPN)

FEATURE

Power dissipation

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

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	120	V
V _{CE0}	Collector-Emitter Voltage	60	V
V _{EB0}	Emitter-Base Voltage	6	V
I _C	Collector Current -Continuous	1	A
P _C	Collector Power Dissipation	750	mW
T _j	Junction Temperature	150	°C
T _{stg}	Storage Temperature	-55 to150	°C



ELECTRICAL CHARACTERISTICS (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	V _{(BR)CBO}	I _C = 10μA , I _E =0	120			V
Collector-emitter breakdown voltage	V _{(BR)CEO}	I _C = 2mA , I _B =0	60			V
Emitter-base breakdown voltage	V _{(BR)EBO}	I _E = 10μA, I _C =0	6			V
Collector cut-off current	I _{CBO}	V _{CB} =60V, I _E =0			0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} =6V, I _C =0			0.1	μA
DC current gain	h _{FE1}	V _{CE} =2 V, I _C = 100mA	135		600	
	h _{FE2}	V _{CE} =2 V, I _C = 1A	81			
Collector-emitter saturation voltage *	V _{CE(sat)}	I _C = 1A, I _B =50mA			0.3	V
Base-emitter saturation voltage *	V _{BE(sat)}	I _C = 1A, I _B =50mA			1.2	V
Base-emitter voltage *	V _{BE}	V _{CE} = 2V, I _C =50mA	0.6		0.7	V
Transition frequency	f _T	V _{CE} =2 V, I _C = 100mA	100			MHz
Output capacitance	C _{ob}	V _{CB} =10 V, I _E = 0, f=1MHz			19	pF
Turn on time	t _{on}	V _{CC} =10V, I _C =100mA, I _{B1} =-I _{B2} =10mA		0.07		μs
Storage time	t _s			0.95		μs
Fall time	t _f			0.07		μs

*pulse test: PW≤350μS, δ≤2%.

CLASSIFICATION OF h_{FE1}

Rank	L	K	U
Range	135-270	200-400	300-600