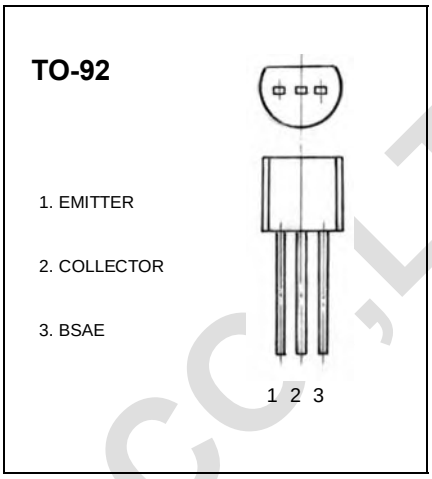
2SD1616A TRANSISTOR (NPN)



FEATURE

Power dissipation

P_{CM}: 0.75 W (Tamb=25℃)

Collector current

I_{CM}: 1 A

Collector-base voltage

$V_{(BR)CBO}$: 120 V

Operating and storage junction temperature range

T_J, T_{stg}: -55℃ to +150℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	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= 2 mA , 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		0.7	V
Transition frequency	f_T	V_{CE}=2 V, I_C= 100mA	100		MHz
Output capacitance	C_{ob}	I_E= 0, f=1MHz		25	pF
Turn on time	t_{on}	Vcc=10V, I_C=100mA, I_{B1}=-I_{B2}=10mA $V_{BE\ (OFF)}$=-2~ -3V		0.07 typ	ms
Storage time	t_S			0.95 typ	ms
Fall time	t_F			0.07 typ	ms

*pulse test: PW≤350μS, δ≤2%.

CLASSIFICATION OF h_{FE1}

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