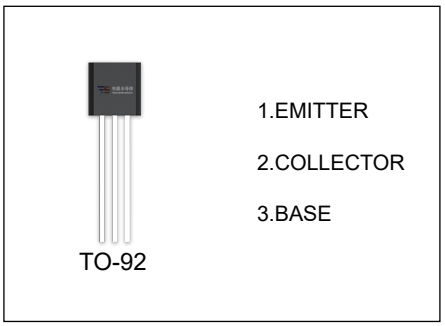
2SD1616 TRANSISTOR (NPN)



FEATURES

- Low $V_{CE(sat)}$
- Complementary Transistor with The 2SB1116

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SD1616	TO-92	Bulk	1000pcs/Bag
2SC1616-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1	A
P_C	Collector Power Dissipation	750	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	166	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

T_a=25℃ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.01mA,I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=2mA,I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.01mA,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	$h_{FE(1)}$*	V_{CE}=2V, I_C=100mA	135		600	
	$h_{FE(2)}$*	V_{CE}=2V, 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
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0, f=1MHz			19	pF
Transition frequency	f_T	V_{CE}=2V,I_C=100mA	100			MHz

*Pulse test: pulse width ≤350μs, duty cycle≤ 2.0%.

CLASSIFICATION OF h_{FE}

RANK	L	K	U
RANGE	135-270	200-400	300-600