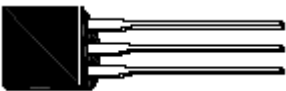


1、Features

- Lead(Pb)-Free
- Low Collectork-Emitter Saturation Voltage
- High Performance at Low Supply Voltage

2、Pinning information

PIN	Description	Simplified outline	
1	Emitter(E)		
2	Collector(C)		
3	Base(B)		
		TO-92	

3、Limiting value

(Ta = 25℃ unless otherwise noted).

SYMBOL	PARAMETER		Limit	UNIT
Vcbo	Collector-Base Voltage		40	V
Vceo	Collector-Emitter Voltage		20	V
Vebo	Emitter-Base Voltage		7	V
Ic	Collector Current		5	A
Pc	Collector Power Dissipation	TO-92	750	mW
Tj	Junction Temperature		+150	℃
Tstg	Storage Temperature		-55 to +150	℃

4、Electrical Characteristics (Ta = 25℃ unless otherwise noted)

SYMBOL	PARAMETER	CONDITIONS	MIN	Typ	MAX	UNIT
BVcbo	Collector-Base Breakdown Voltage	I _C = 100uA, I _B = 0	40			V
Bvceo	Collector-Emitter Breakdown Voltage	I _C = 1mA, I _E = 0	20			V
Bvebo	Emitter-Base Breakdown Voltage	I _E = 100uA, I _C = 0	7			V
Icbo	Collector Cut-off Current	V _{CB} = 10V, I _E = 0			100	nA
Iceo	Collector Cut-off Current	V _{CE} = 10V, I _C = 0			1	uA
Vce(sat)	Collector-Emitter Saturation Voltage	I _C =3A I _b =0.1A			1.0	V
h _{FE}	DC Current Gain	V _{CE} = 2V, I _C = 0.5A	230		900	
f _T	Current Gain Bandwidth Product	V _{CE} =6V, I _C = 50mA		150		MHz
Cob	Output Capacitance	V _{CB} =20V, f = 1MHz		23		pF

5. Electrical Characteristics Curve

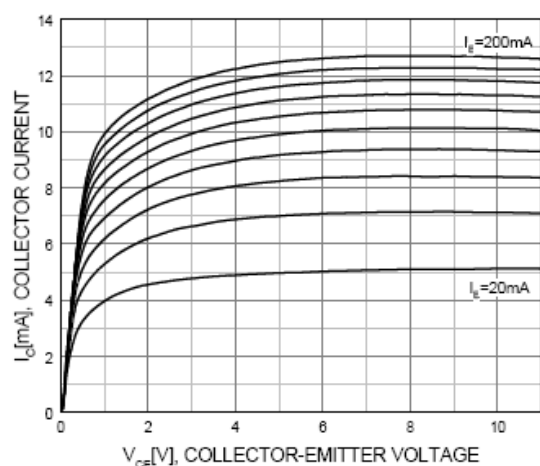


Figure 1. Static Characteristic

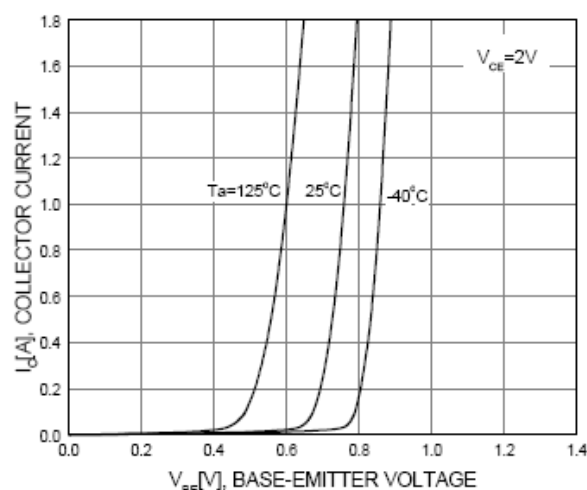


Figure 2. Base-Emitter On Voltage

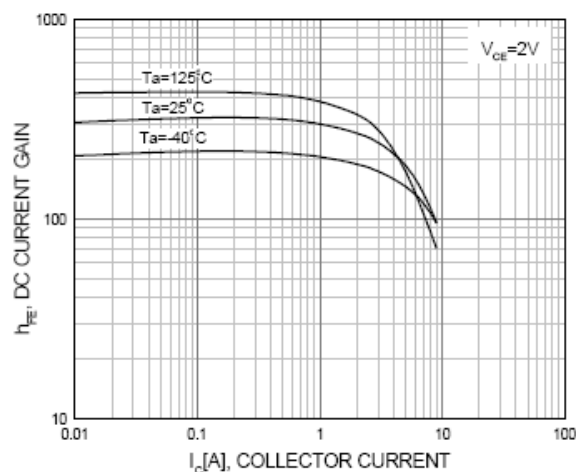


Figure 3. DC current Gain

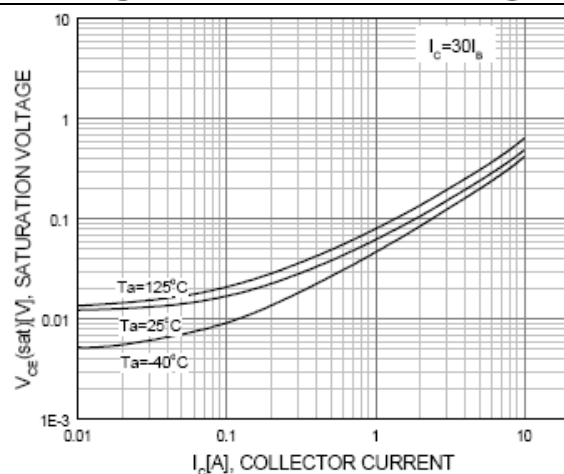


Figure 4. Collector-Emitter Saturation Voltage

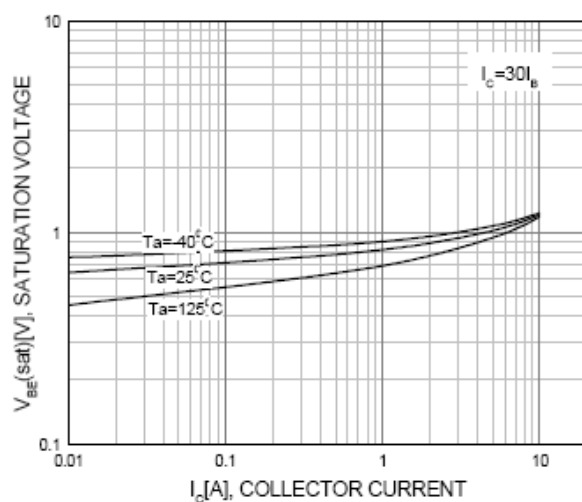


Figure 5. Base-Emitter On Voltage

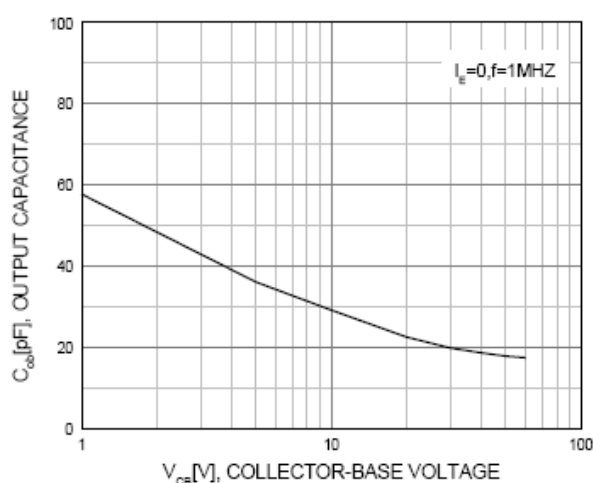


Figure 6. Collector Output Capacitance

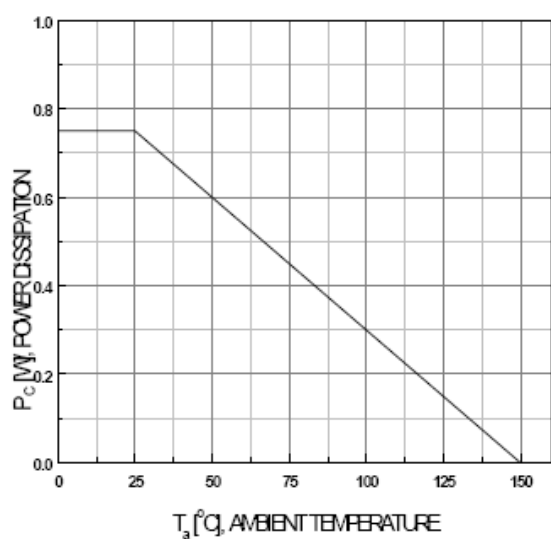


Figure 7. Power Derating

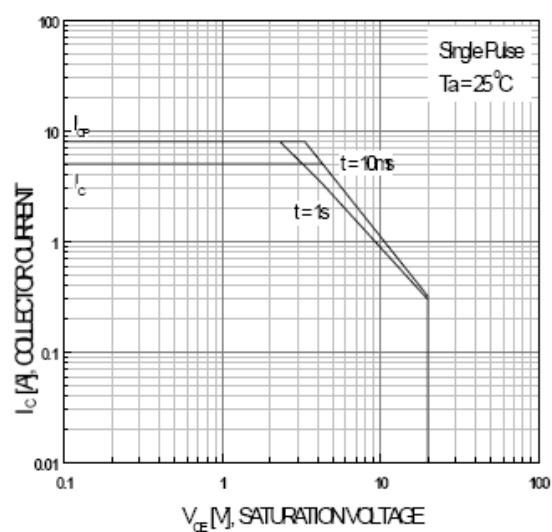
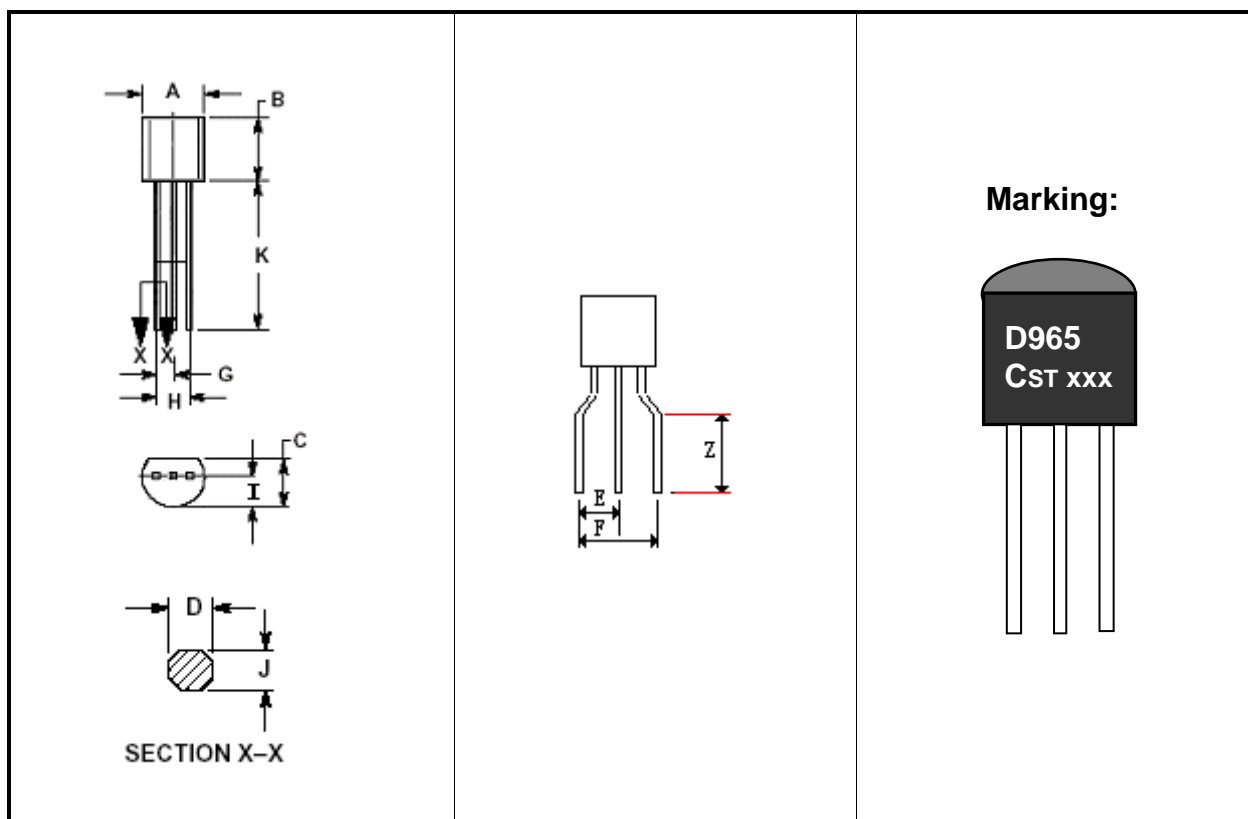


Figure 8. Forward Bias Safe Operating Area

6、Package outline(TO-92)



DIM	Inches			Millimeters		
	Min	Type	Max	Min	Type	Max
A	0.175	-	0.205	4.45	-	5.20
B	0.170	-	0.210	4.32	-	5.33
C	0.134	-	0.142	3.40	-	3.60
K	0.500	-	-	12.70	-	-
G	0.045	-	0.055	1.14	-	1.39
H	0.095	-	0.105	2.41	-	2.67
I	0.080	-	0.105	2.04	-	2.66
D	0.016	-	0.021	0.41	-	0.53
J	0.012	-	0.018	0.30	-	0.45
E	0.08	-	0.112	2.15	-	2.85
F	0.179	-	0.215	4.55	-	5.45
Z	0.118	-	-	3.00	-	-