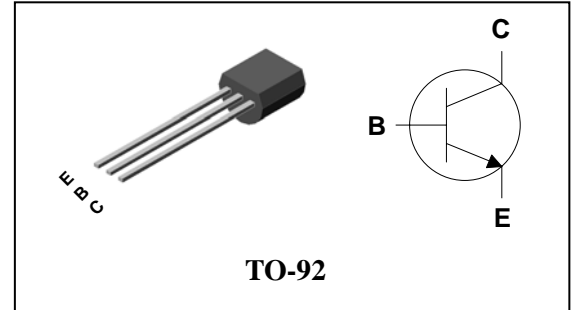


Features

- Low saturation medium current application
- Extremely low collector saturation voltage
- Suitable for low voltage large current drivers
- High DC current gain and large current capability
- Low on resistance : $R_{ON}=0.6\Omega(\text{Max.})$ ($I_B=1\text{mA}$)

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STD123	STD123	TO-92

Absolute maximum ratings

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	20	V
Collector-Emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	6.5	V
Collector current	I_C	1	A
Collector dissipation	P_C	625	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55 ~ 150	°C

Electrical Characteristics

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	BV_{CBO}	$I_C=50\mu\text{A}$, $I_E=0$	20	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C=1\text{mA}$, $I_B=0$	15	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	$I_E=50\mu\text{A}$, $I_C=0$	6.5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB}=20\text{V}$, $I_E=0$	-	-	0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=6\text{V}$, $I_C=0$	-	-	0.1	μA
DC current gain	h_{FE}	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$	150	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$	-	0.1	0.3	V
Transistor frequency	f_T	$V_{CE}=5\text{V}$, $I_C=50\text{mA}$	-	260	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_E=0$, $f=1\text{MHz}$	-	5	-	pF
On resistance	R_{ON}	$f=1\text{KHz}$, $I_B=1\text{mA}$, $V_{IN}=0.3\text{V}$	-	0.6	-	Ω

Electrical Characteristic Curves

Fig. 1 $V_{CE(sat)}-I_C$

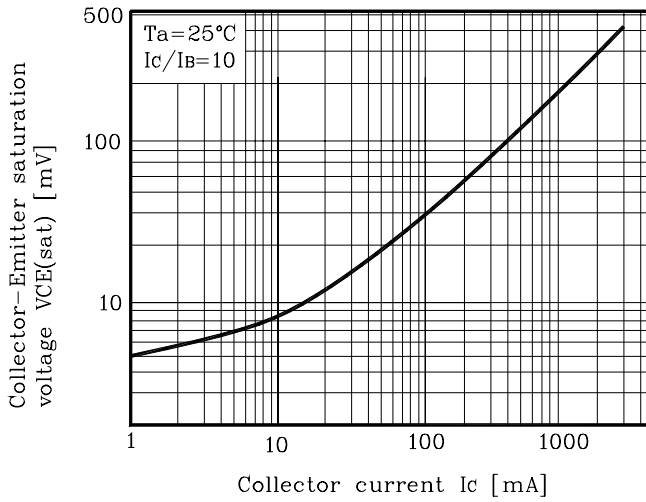


Fig. 1 $C_{ob}-V_{CB}$

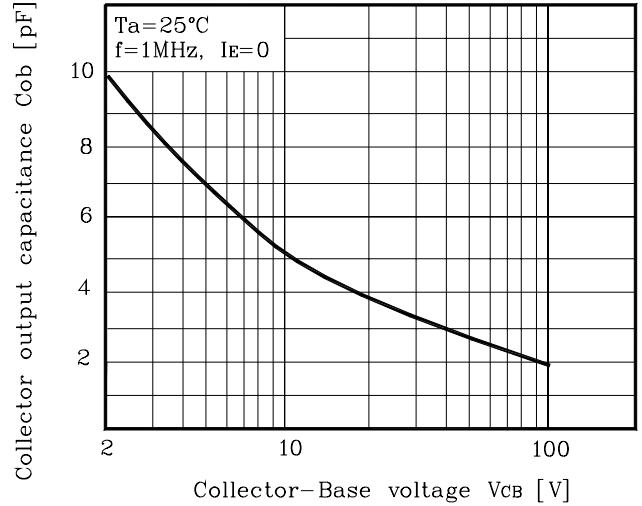


Fig. 3 $h_{FE}-I_C$

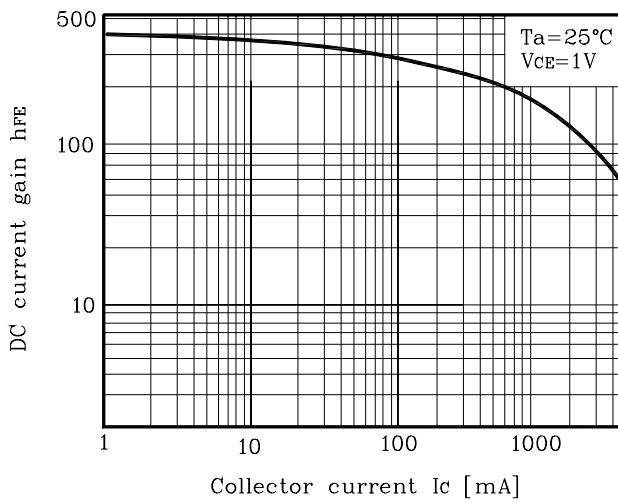
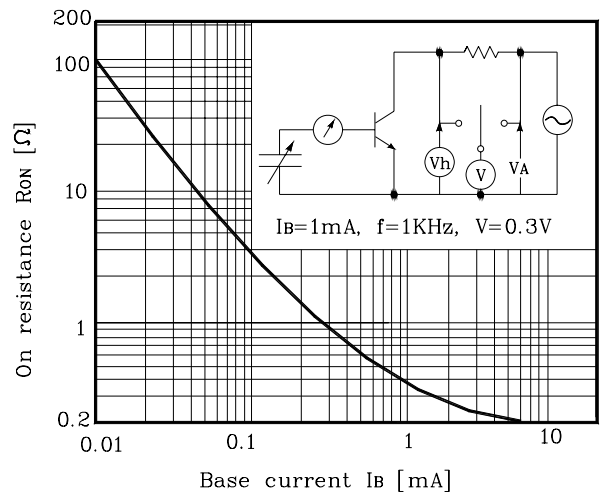


Fig. 4 $R_{ON}-I_B$



Outline Dimension



SYMBOL	MILLMETERS(mm)		
	MINIMUM	NOMINAL	MAXIMUM
A	3.40	3.50	3.66
A1	2.46	2.51	2.59
b	0.39	0.44	0.53
b1	0.39	—	0.63
c	0.35	0.42	0.47
D	4.48	4.60	4.70
E	4.48	4.60	4.70
e	1.17	1.27	1.37
L	13.70	14.00	14.77
L1	1.55	1.70	2.15

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