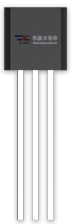
2SC1318 TRANSISTOR (NPN)



TO-92

1.EMITTER
2.COLLECTOR
3.BASE

FEATURES

- Low Collector to Emitter Saturation Voltage $V_{CE(sat)}$
- Complementary Pair with 2SA720

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC1318	TO-92	Bulk	1000pcs/Bag
2SC1318-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	7	V
I_C	Collector Current	500	mA
P_C	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	200	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

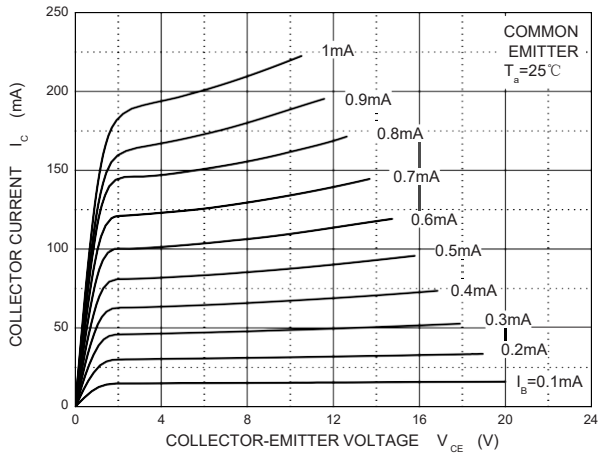
T_a=25℃ unless otherwise specified

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=10mA,I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.01mA,I_C=0	7			V
Collector cut-off current	I_{CBO}	V_{CB}=20V,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}=10V, I_C=150mA	85		340	
	$h_{FE(2)}$	V_{CE}=10V, I_C=500mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=300mA,I_B=30mA			0.6	V
Base-emitter saturation voltage	$V_{BE\ (sat)}$	I_C=300mA,I_B=30mA			1.5	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0, f=1MHz			15	pF
Transition frequency	f_T	V_{CE}=10V,I_C=50mA, f=200MHz		200		MHz

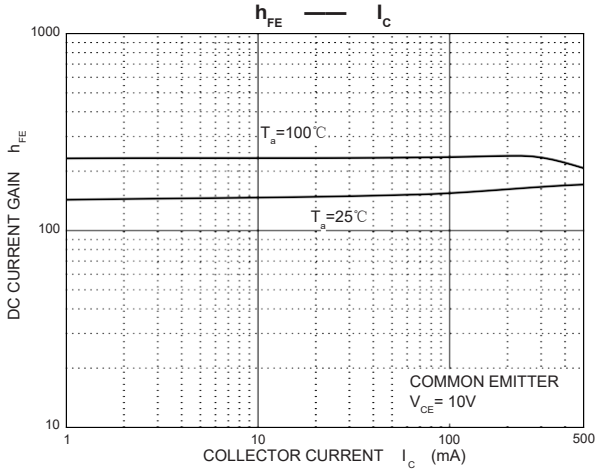
CLASSIFICATION OF $h_{FE(1)}$

RANK Q		R	S
RANGE	85-170	120-240	170-340

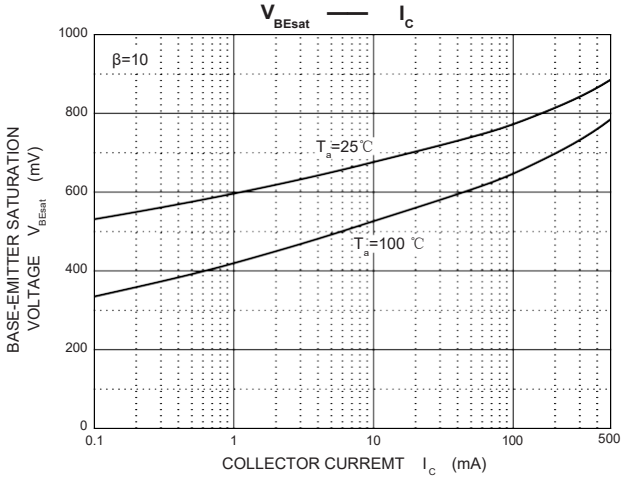
Static Characteristic



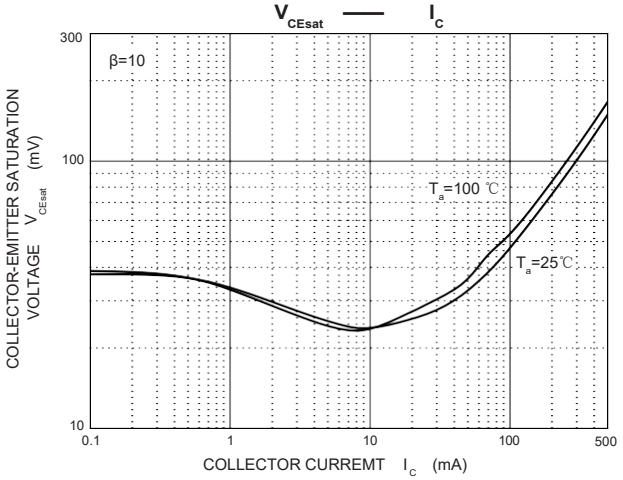
h_{FE} — I_C



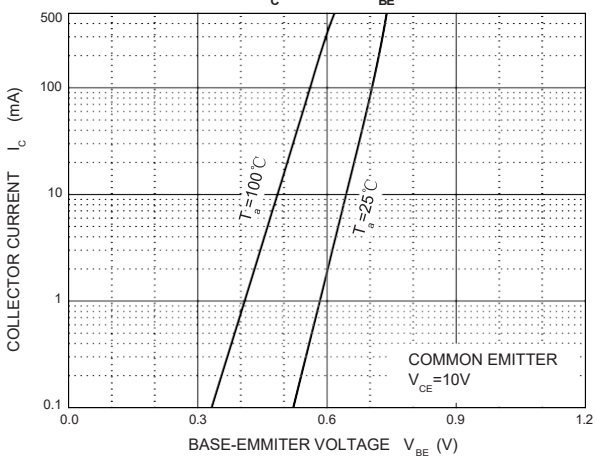
V_{BEsat} — I_C



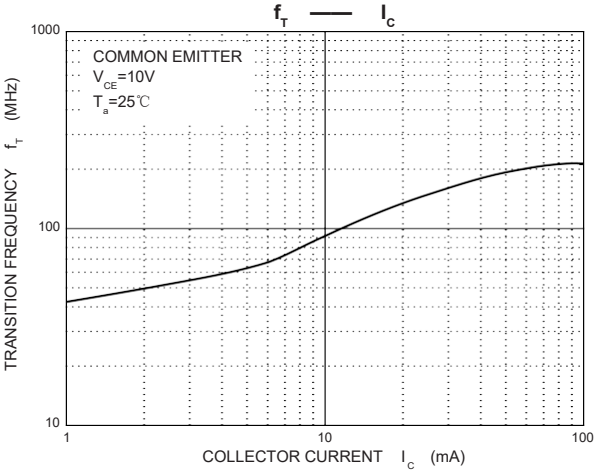
V_{CEsat} — I_C



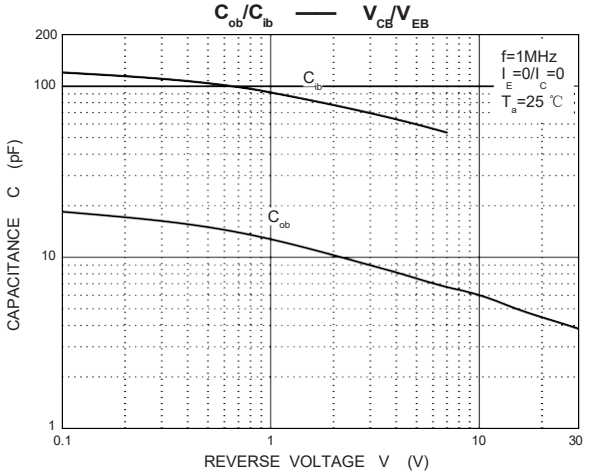
I_C — V_{BE}



f_T — I_C



C_{ob}/C_{ib} — V_{CB}/V_{EB}



P_C — T_a