



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

SOT-523 Plastic-Encapsulate Transistors

2SA2018 TRANSISTOR (PNP)

FEATURES

- A collector current is large.
- Low $V_{CE(sat)}$ · $V_{CE(sat)} \leq -250\text{mV}$ at $I_C = -200\text{mA}$ / $I_B = -10\text{mA}$

MARKING: BW

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector- Base Voltage	-15	V
V_{CEO}	Collector-Emitter Voltage	-12	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current -Continuous	-0.5	A
P_C	Collector Power Dissipation	0.15	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

SOT-523

1. BASE
2. EMITTER
3. COLLECTOR



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$, $I_E=0$	-15			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}$, $I_B=0$	-12			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-10\mu\text{A}$, $I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-15\text{V}$, $I_E=0$			-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}	$V_{CE}=-2\text{V}$, $I_C=-10\text{mA}$	270		680	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-200\text{mA}$, $I_B=-10\text{mA}$			-0.25	V
Transition frequency	f_T	$V_{CE}=-2\text{V}$, $I_C=-10\text{mA}$, $f=100\text{MHz}$		260		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}$, $I_E=0$, $f=1\text{MHz}$		6.5		pF

Typical Characteristics

2SA2018

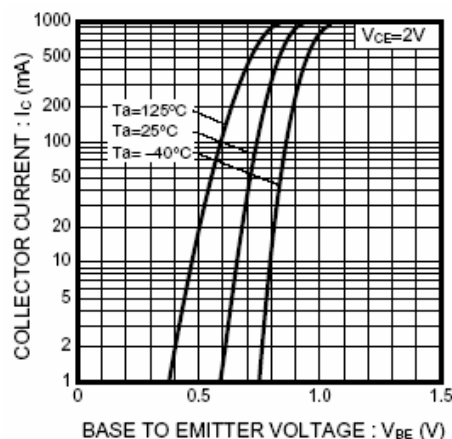


Fig.1 Grounded Emitter Propagation Characteristics

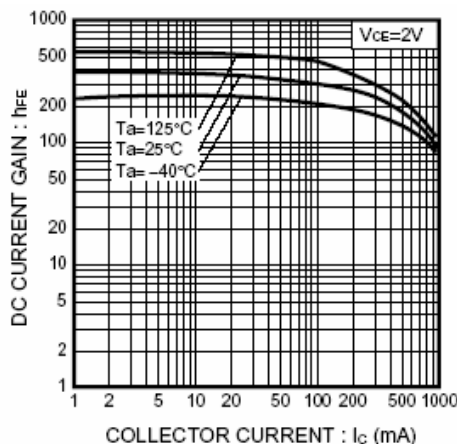


Fig.2 DC Current Gain vs. Collector Current

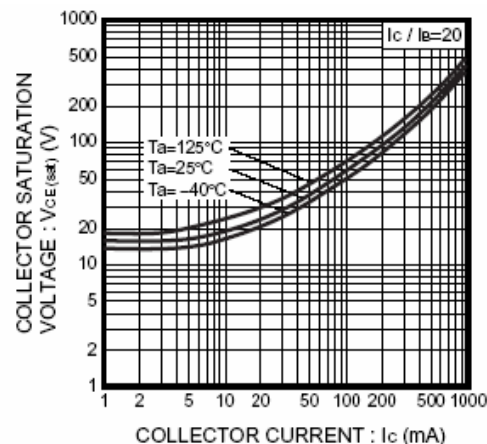


Fig.3 Collector-Emitter Saturation Voltage vs. Collector Current (I)

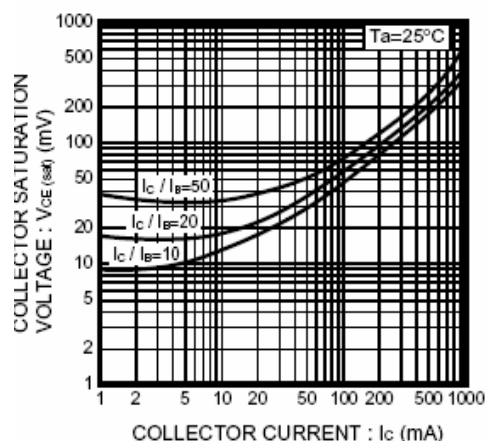


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (II)

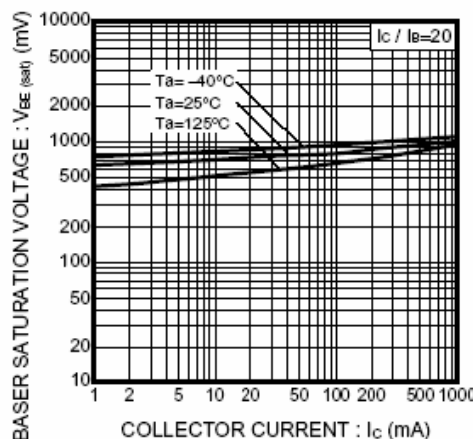


Fig.5 Base-Emitter Saturation Voltage vs. Collector Current

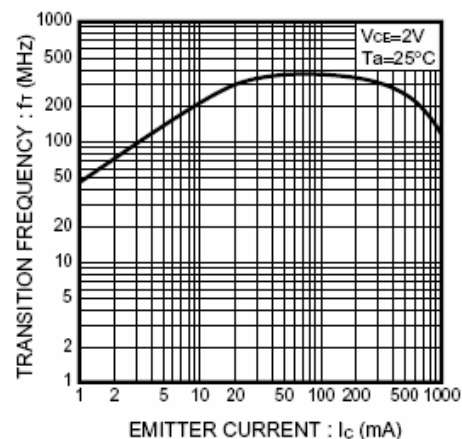


Fig.6 Gain Bandwidth Product vs. Emitter Current

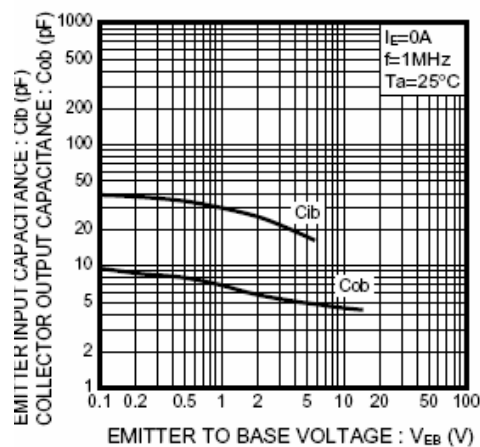


Fig.7 Collector Output Capacitance vs. Collector-Base Voltage
Emitter Input Capacitance vs. Emitter-Base Voltage