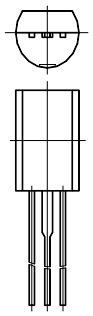
JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

TO-92MOD Plastic-Encapsulate Transistors

2SB647/2SB647A TRANSISTOR (PNP)

TO-92MOD

1. EMITTER
2. COLLECTOR
3. BASE



123

FEATURE

Power dissipation

P_{CM}: 0.9 W (Tamb=25℃)

Collector current

$I_{CM:}$ -1 A

Collector-base voltage

$V_{(BR)CBO}$: 120 V

Operating and storage junction temperature range

T_J, T_{stg}: -55℃ to +150℃

ELECTRICAL CHARACTERISTICS (Tamb=25℃ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	Ic= -10μA , I_E=0	-120		V
Collector-emitter breakdown voltage 2SB647 **2SB647A**	$V_{(BR)CEO}$	I_C=-1mA , I_B=0	-80 -100		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -10μA, I_C=0	-5		V
Collector cut-off current	I_{CBO}	V_{CB}= -100 V, I_E=0		-10	μA
DC current gain **2SB647** **2SB647A**	$h_{FE(1)*}$	V_{CE}=-5 V, I_C= -150mA	60 60	320 200	
	$h_{FE(2)}$	V_{CE}=-5 V, I_C= -500mA	30		
Collector-emitter saturation voltage	V_{CEsat}	I_C=-500mA, I_B=-50mA		-1	V
Transition frequency	f_T	V_{CE}=-5V, I_C= -150mA	140		MHz
Output capacitance	C_{ob}	V_{CE}=-10V, I_E=0 f=1 MHz		20	pF

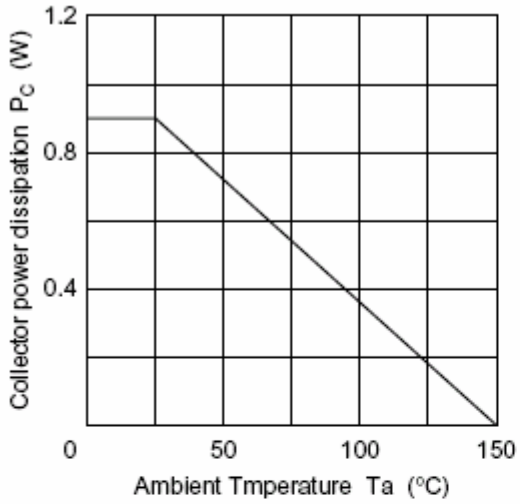
CLASSIFICATION OF h_{FE}

Rank		B	C	D
Range	**2SB647**	60-120	100-200	160-320
	2SB647A	60-120	100-200	-

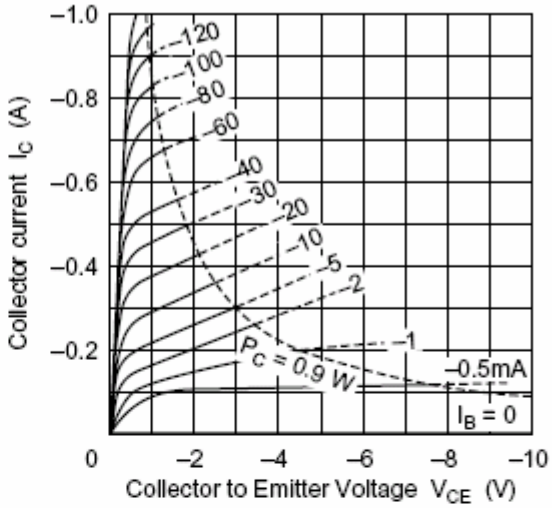
Typical Characteristics

2SB647/2SB647A

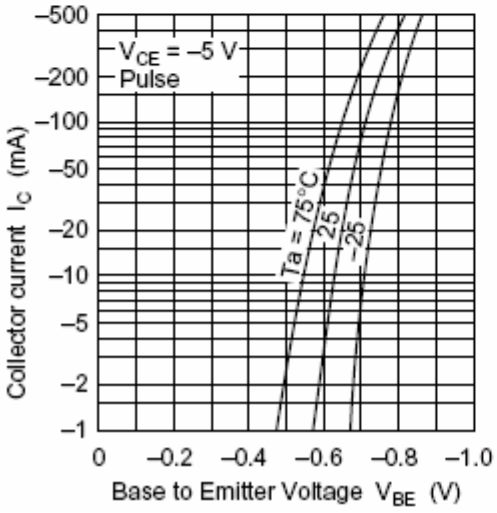
Maximum Collector Dissipation Curve



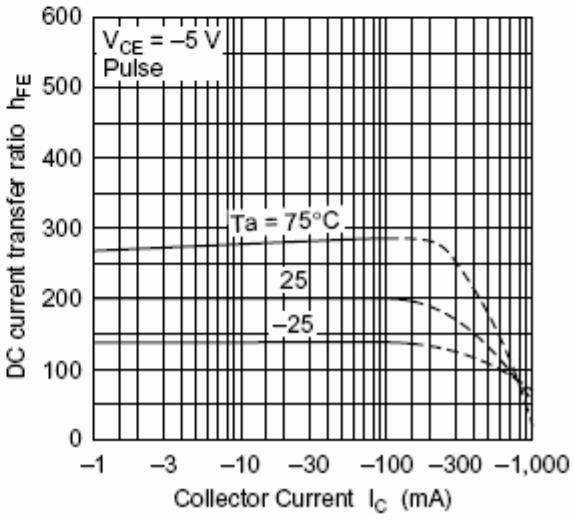
Typical Output Characteristics



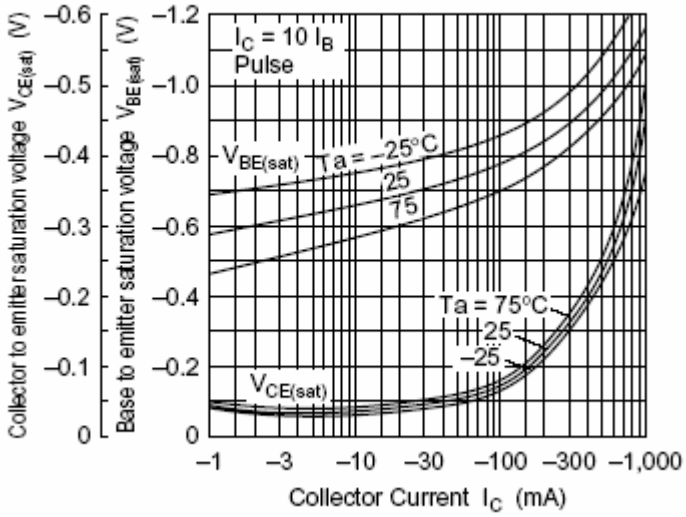
Typical Transfer Characteristics

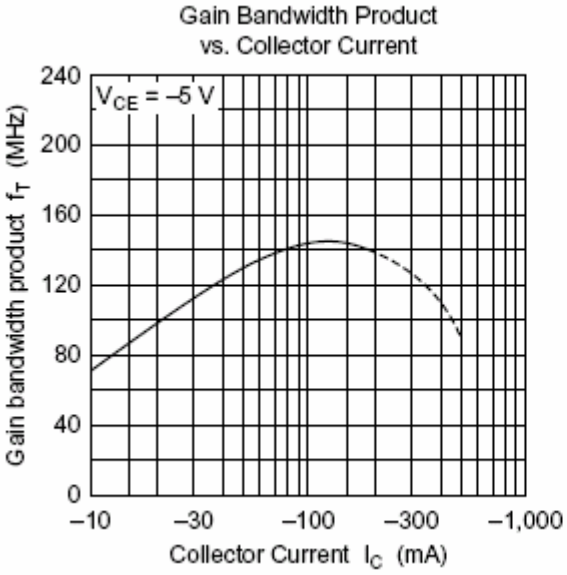


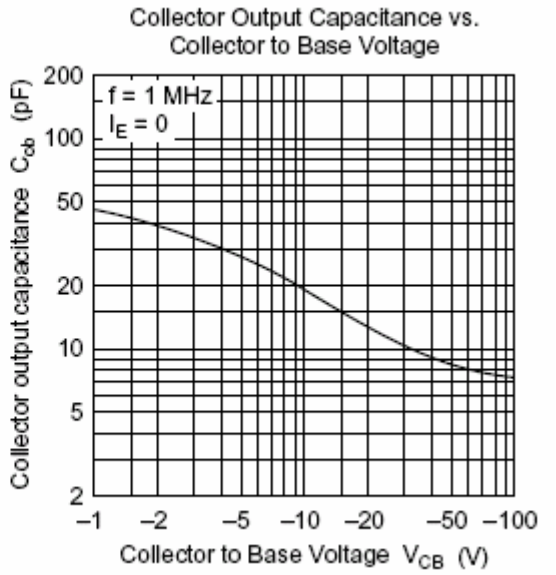
DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current




Gain Bandwidth Product
vs. Collector Current
V_{CE} = –5 V
Gain bandwidth product f_T (MHz)
240
200
160
120
80
40
0
–10
–30
–100
–300
–1,000
Collector Current I_C (mA)


Collector Output Capacitance vs.
Collector to Base Voltage
f = 1 MHz
I_E = 0
Collector output capacitance C_{ob} (pF)
200
100
50
20
10
5
2
–1
–2
–5
–10
–20
–50
–100
Collector to Base Voltage V_{CB} (V)