



SOT-89 Plastic-Encapsulate Transistors

2SB647

TRANSISTOR (PNP)

SOT-89-3L

FEATURE

Power dissipation

$$P_{CM}: 0.9 \text{ W (Tamb=25°C)}$$

Collector current

$$I_{CM}: -1 \text{ A}$$

Collector-base voltage

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

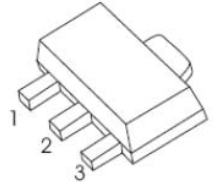
Operating and storage junction temperature range

$$T_J, T_{stg}: -55°C \text{ to } +150°C$$

1. BASE

2. COLLECTOR

3. EMITTER



ELECTRICAL CHARACTERISTICS (Tamb=25°C unless otherwise specified)

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

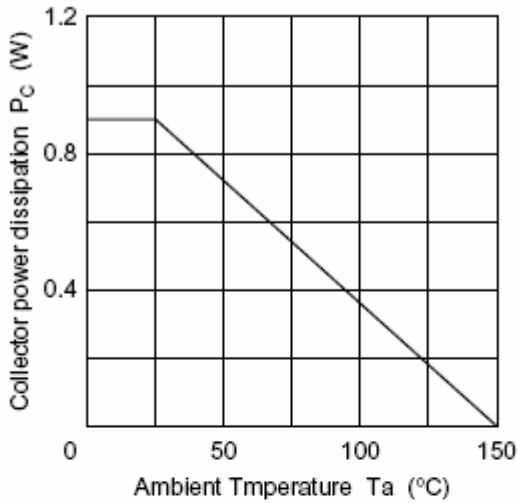
CLASSIFICATION OF h_{FE}

Rank		B	C	D
Range	2SB647	60-120	100-150	150-320

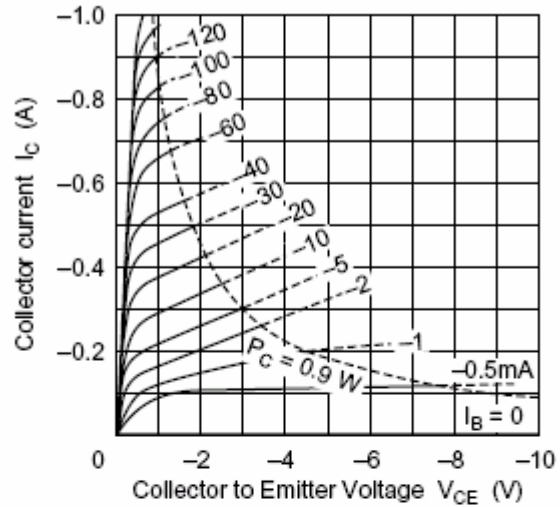
Typical Characteristics

2SB647

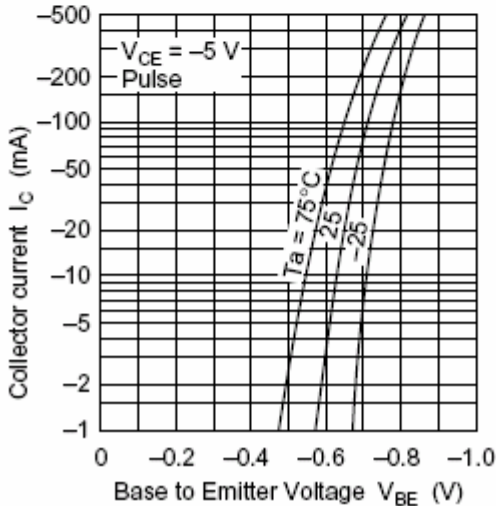
Maximum Collector Dissipation Curve



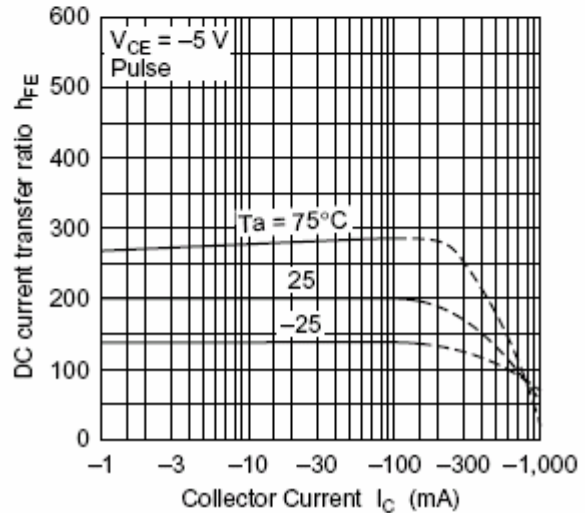
Typical Output Characteristics



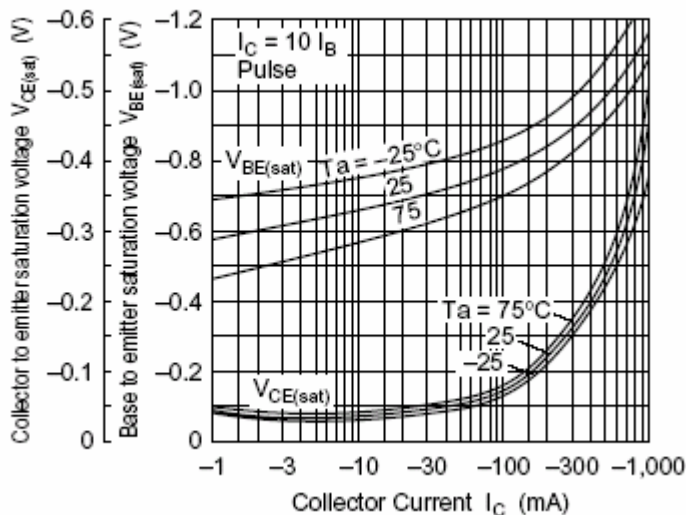
Typical Transfer Characteristics



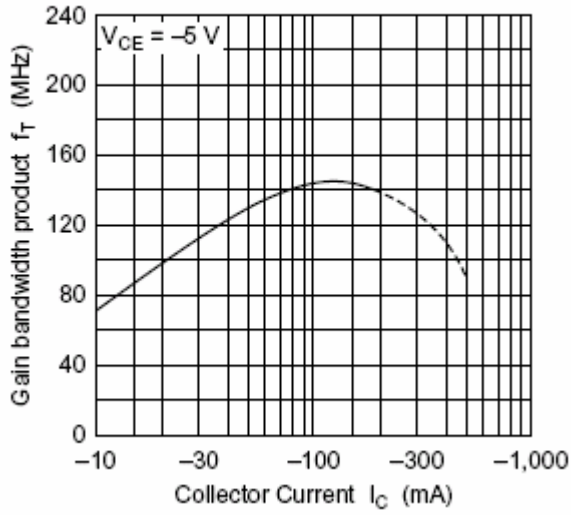
DC Current Transfer Ratio vs. Collector Current



Saturation Voltage vs. Collector Current



Gain Bandwidth Product vs. Collector Current



Collector Output Capacitance vs. Collector to Base Voltage

