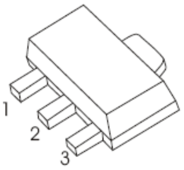
2SC3647 TRANSISTOR (NPN)

SOT-89-3L

1. BASE
2. COLLECTOR
3. EMITTER



Applications

- High-Voltage Switching

Features

- High breakdown voltage and large current capacity
- Fast switching time
- Complement the 2SA1417

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Value	Unit
Collector-Base Voltage		BV_{CBO}	120	V
Collector-Emitter Voltage		BV_{CEO}	100	V
Emitter-Base Voltage		BV_{EBO}	6	V
Collector Current	DC	I_C	2	A
	Pulse	I_{CP}	3	
Collector Power Dissipation		P_C	500	mW
Junction Temperature		T_j	150	℃
Storage Temperature		T_{stg}	-55～＋150	℃

Electrical Characteristics (Ta=25℃)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV_{CBO}	I_C = 100μA, I_E = 0	120			V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA, I_B = 0	100			V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 100μA,I_C = 0	6			V
Collector-base cut-off current	I_{CBO}	V_{CB} = 100V,I_E = 0			100	nA
Emitter-base cut-off current	I_{EBO}	V_{EB} = 4V,I_C = 0			100	nA
DC current gain	h_{FE}	V_{CE} = 5V,I_C= 100mA	100		400	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 1A, I_B = 100mA			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C = 1A, I_B = 100mA			1.2	V
Transition frequency	f_T	V_{CE} = 10V,I_E= 100mA		120		MHz
Collector output capacitance	C_{ob}	V_{CB} = 10V,I_E= 0, f=1MHz		16		pF

h_{FE} Classification

Classification	R	S	T
Range	100~200	140~280	200~400
Marking	CCR	CCS	CCT

Typical Characteristics

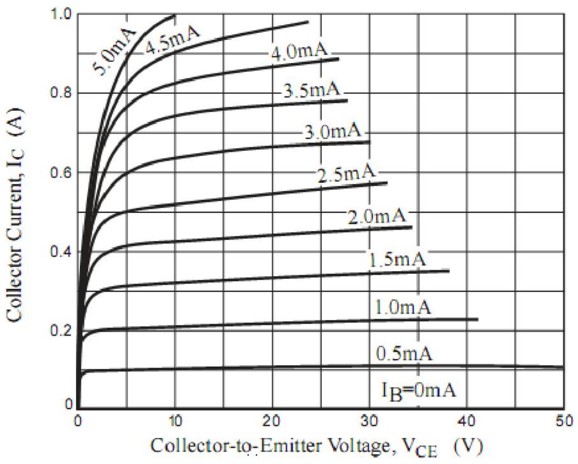


Figure 1. Static Characteristic

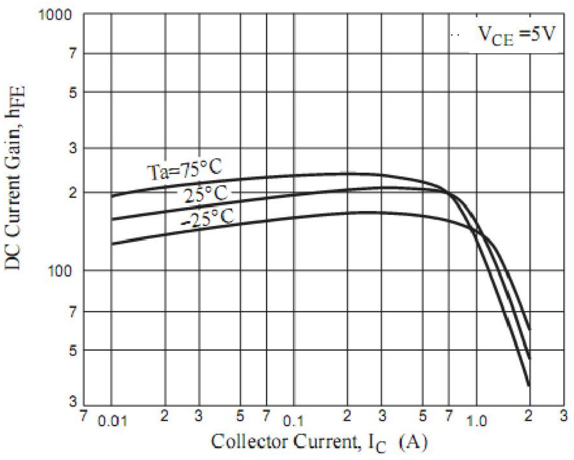


Figure 2. DC current Gain

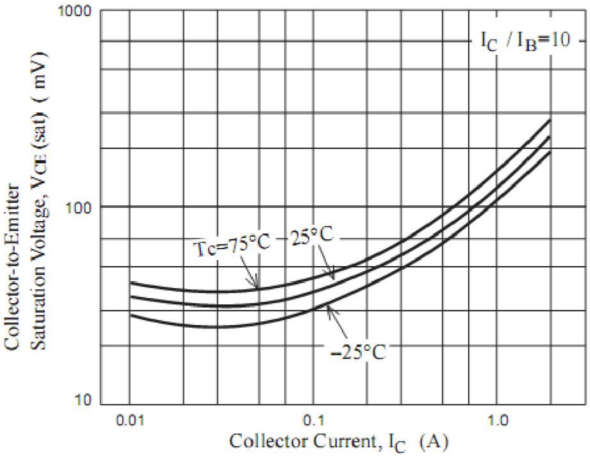


Figure 3. Collector-Emitter Saturation Voltage

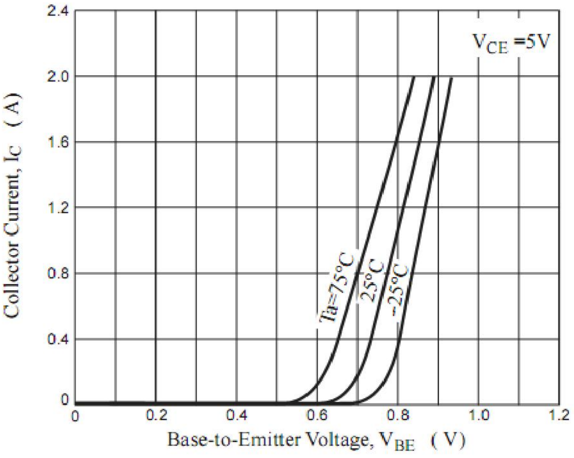


Figure 4. Base-Emitter Characteristics

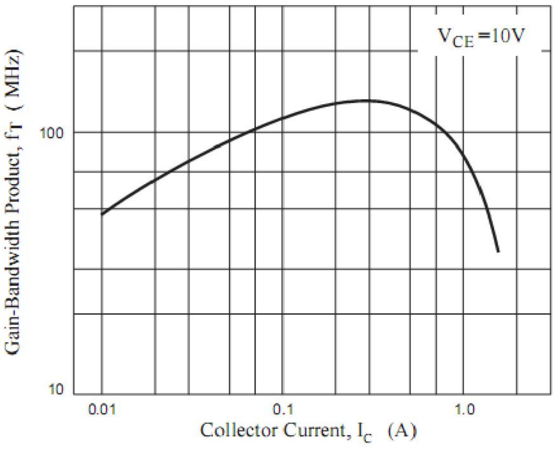


Figure 5. Current Gain Bandwidth Product

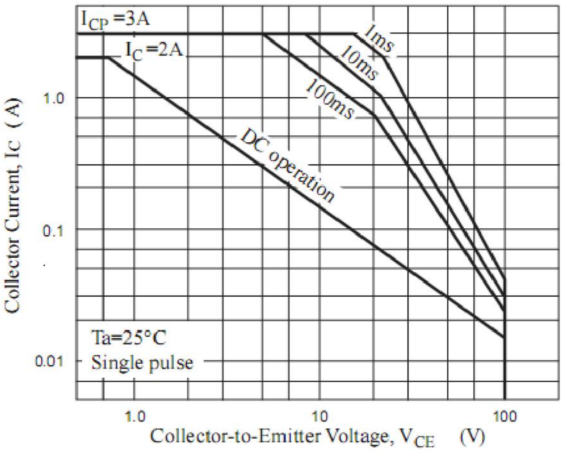


Figure 6. Safe Operating Area