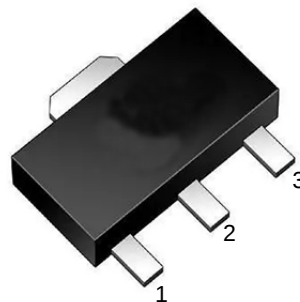


SOT-89-3L Plastic-Encapsulate Transistors

2SC3647 TRANSISTOR (NPN)

• Features

- Complimentary to 2SA1417



1. BASE
2. COLLECTOR
3. EMITTER

SOT-89-3L

• MAXIMUM RATINGS (T_C=25°C)

Parameter	Symbol	Limit	Unit
Collector-Base Voltage	V _{CBO}	120	V
Collector-Emitter Voltage	V _{CEO}	100	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	2	A
Collector Power Dissipation	P _C	500	mW
Thermal Resistance From Junction To Ambient	R _{θJA}	250	°C/W
Operation Junction and Storage Temperature Range	T _J , T _{stg}	-55~+150	°C

• ELECTRICAL CHARACTERISTICS (T_a=25°C)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V _{CBO}	I _C = 100μA, I _E = 0	120			V
Collector-emitter breakdown voltage	V _{CEO}	I _C = 1mA, I _B = 0	100			V
Emitter-base breakdown voltage	V _{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

• CLASSIFICATION OF h_{FE}(1)

Rank	R	S	T
Range	100-200	140-280	200-400

• Ordering Information:

Part NO.	2SC3647
Marking	CCR/CCS/CCT
Packing Information	REEL TAPE
Basic ordering unit (pcs)	1000

• Typical Characteristics

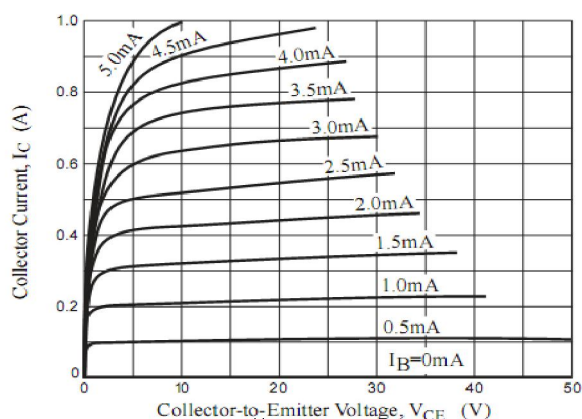


Figure 1. Static Characteristic

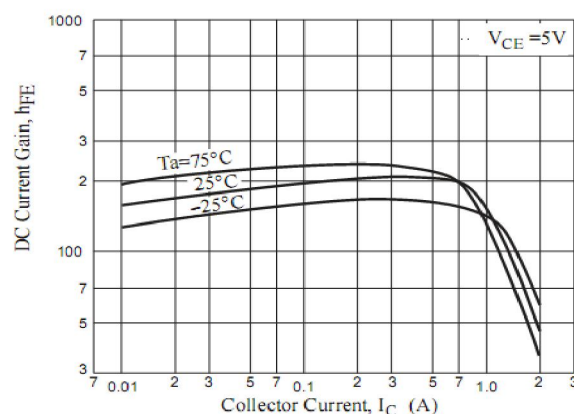


Figure 2. DC current Gain

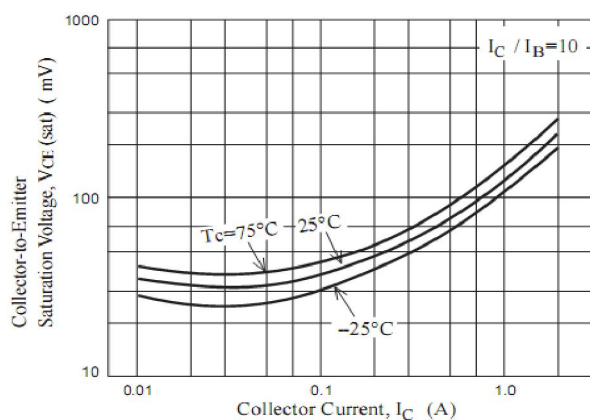


Figure 3. Collector-Emitter Saturation Voltage

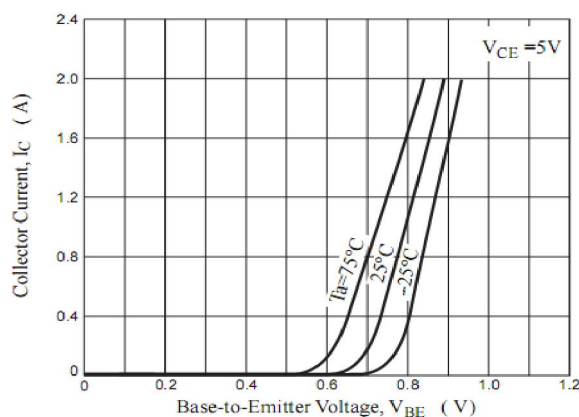


Figure 4. Base-Emitter Characteristics

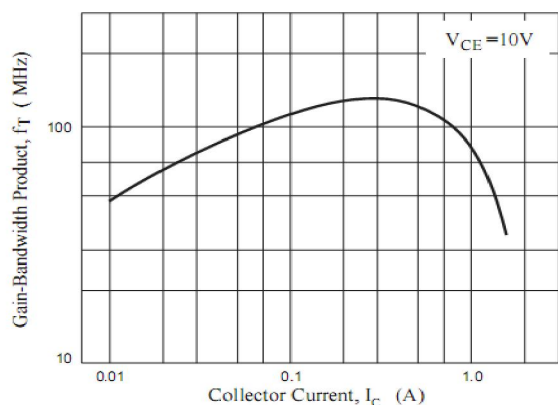


Figure 5. Current Gain Bandwidth Product

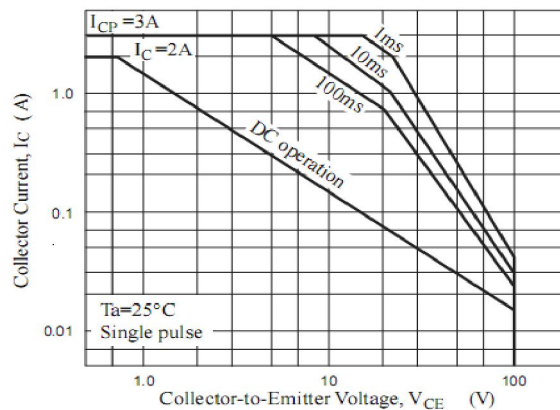
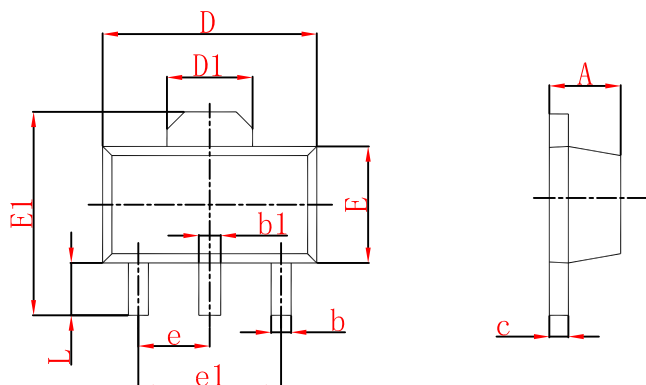
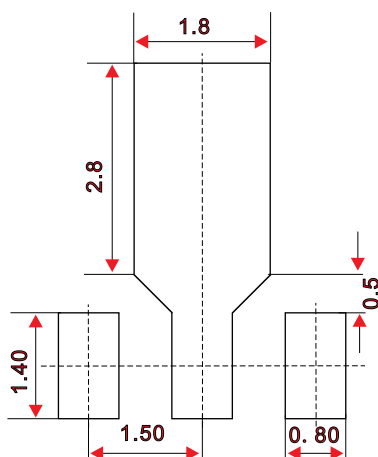


Figure 6. Safe Operating Area

SOT-89-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF.		0.061 REF.	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP.		0.060 TYP.	
e1	3.000 TYP.		0.118 TYP.	
L	0.900	1.200	0.035	0.047



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.