

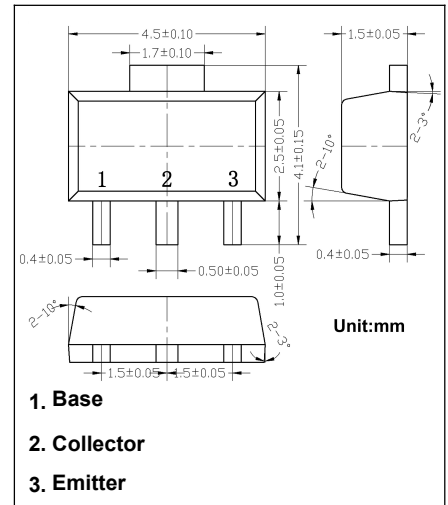
# SOT-89 Plastic-Encapsulate Transistors

## 2SC3647

NPN EPITAXIAL SILICON TRANSISTOR

### Features

- Adoption of FBET, MBIT Processes
- High Breakdown Voltage and Large Current Capacity



### Maximum Ratings (T<sub>a</sub>=25°C unless otherwise noted)

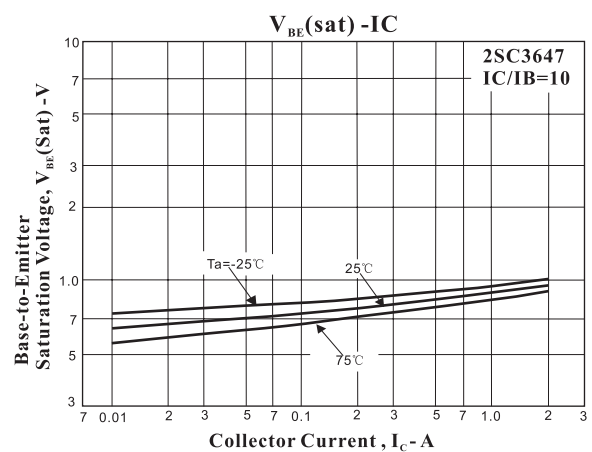
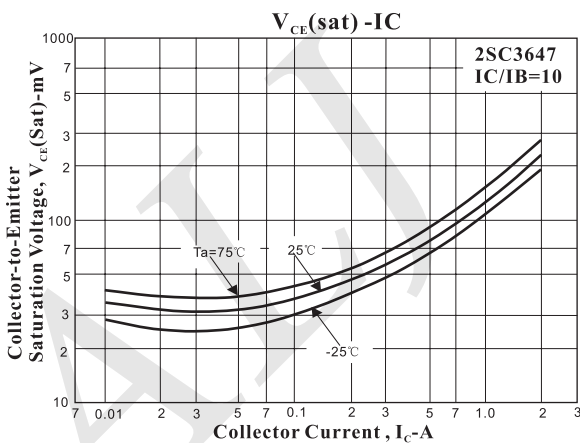
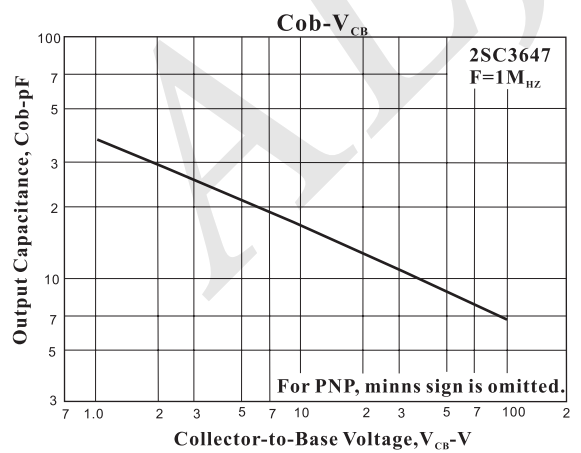
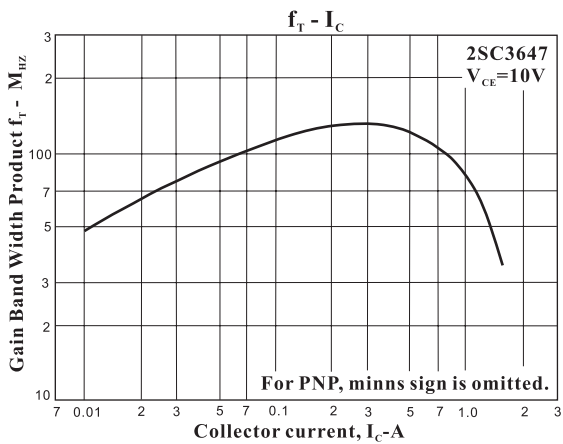
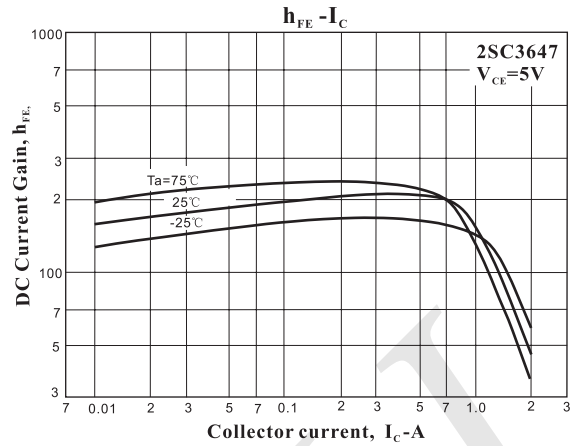
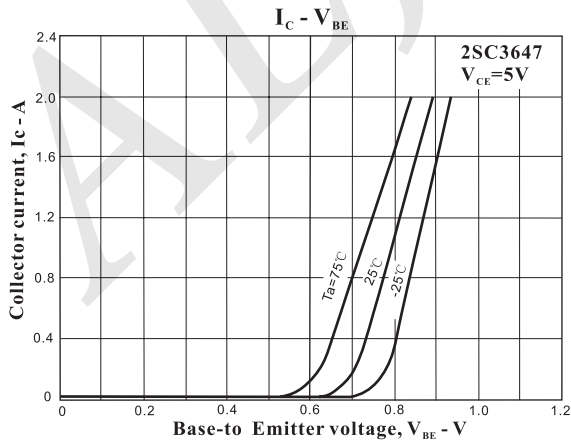
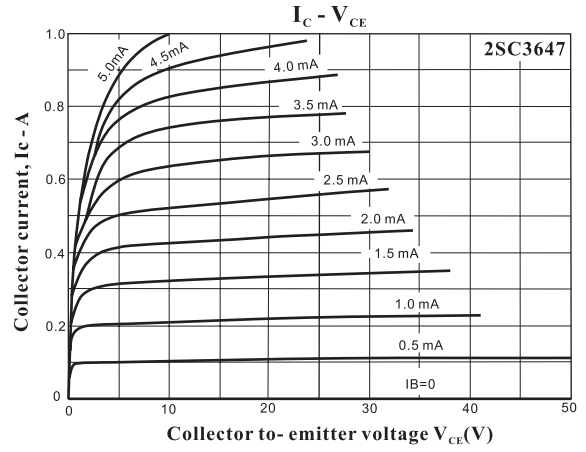
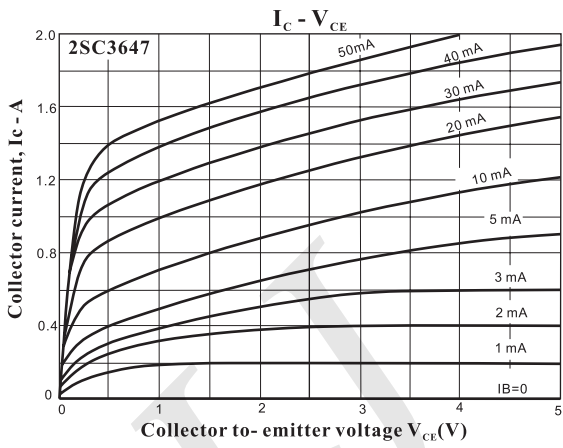
Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	120	V
Collector-Emitter Voltage	V <sub>CEO</sub>	100	V
Emitter-Base Voltage	V <sub>EBO</sub>	6	V
Collector Current	I <sub>C</sub>	2	A
Collector Current (Pulse)	I <sub>CP</sub>	3	A
Collector Power Dissipation	P <sub>C</sub>	500	mW
	P <sub>C</sub> *	1.5	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature Range	T <sub>stg</sub>	-55 to +150	°C

\* Mounted on ceramic board (250 mm<sup>2</sup> x 0.8 mm)

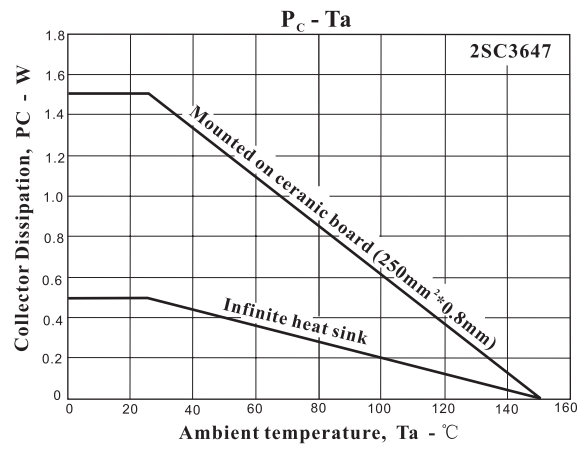
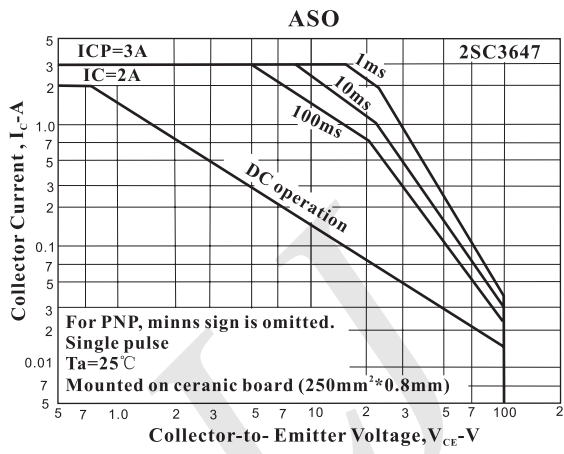
### Electrical Characteristics (T<sub>a</sub>=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 100V , I <sub>E</sub> = 0			100	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 4V , I <sub>C</sub> = 0			100	nA
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 10uA , I <sub>E</sub> = 0	120			V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> = 1mA , R <sub>BE</sub> = ∞	100			V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 10uA , I <sub>C</sub> = 0	6			V
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V , I <sub>C</sub> = 100mA	100		400	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 1A , I <sub>B</sub> = 100mA		0.22	0.6	V
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> = 1A , I <sub>B</sub> = 100mA		0.85	1.2	V
Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 10V , I <sub>C</sub> = 100mA		120		MHz
Collector Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10V , I <sub>E</sub> = 0 , f = 1MHz		25		pF
Turn-On Time	t <sub>on</sub>	See Test Circuit.		80		ns
Storage Time	t <sub>stg</sub>			750		
Fall Time	t <sub>f</sub>			40		

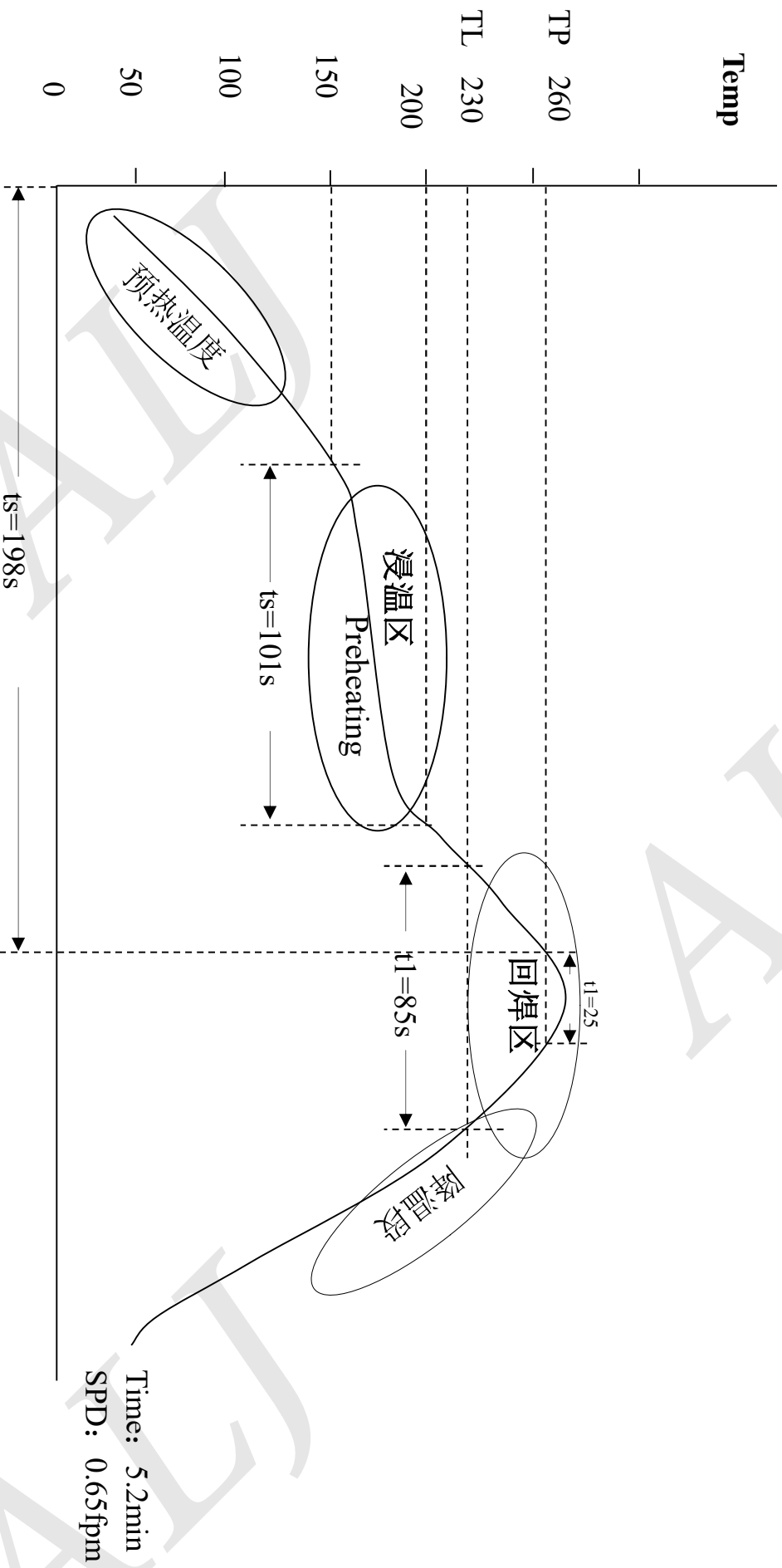
# Typical Characteristics



# Typical Characteristics(Cont.)

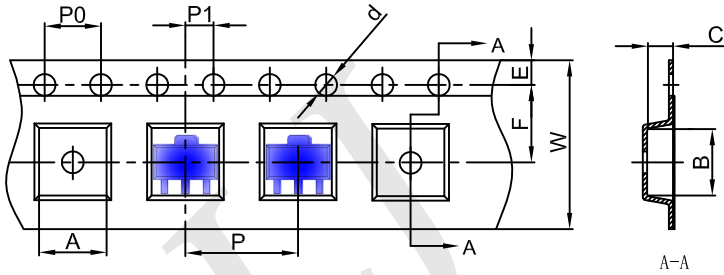


# IR—Reflow Profile



# SOT-89-3L Tape and Reel

## SOT-89-3L Embossed Carrier Tape

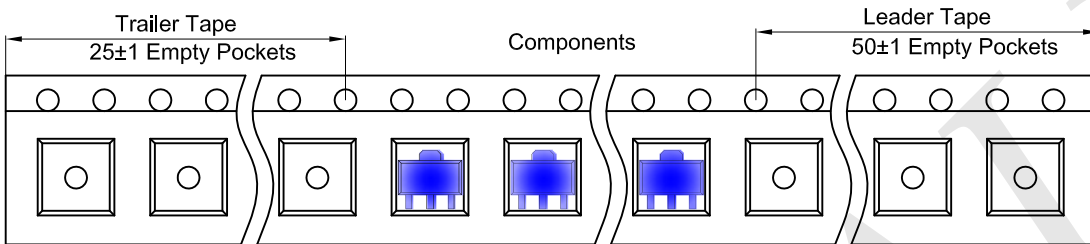


### Packaging Description:

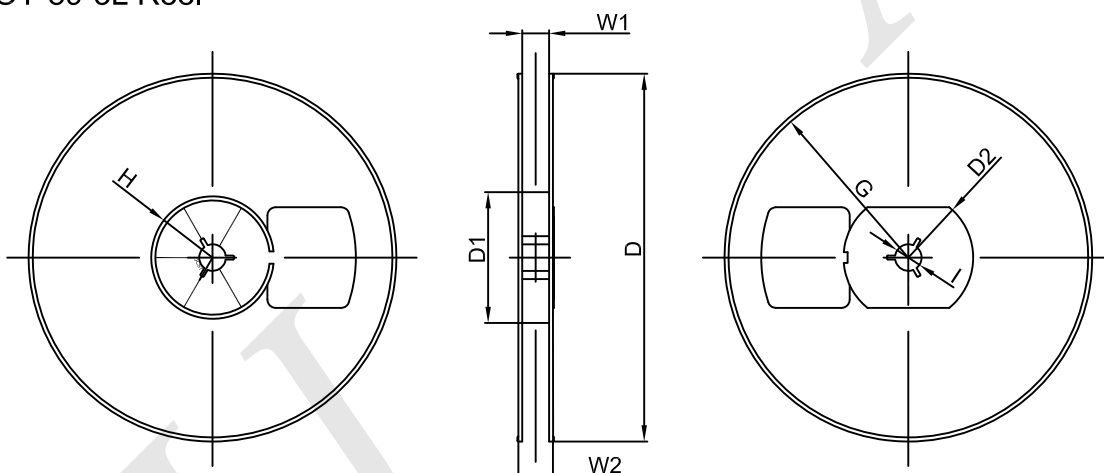
SOT-89-3L parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 1,000 units per 7" or 18.0 cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are in millimeter										
Pkg type	A	B	C	d	E	F	P0	P	P1	W
SOT-89-3L	4.85	4.45	1.85	Ø1.50	1.75	5.50	4.00	8.00	2.00	12.00

## SOT-89-3L Tape Leader and Trailer



## SOT-89-3L Reel



Dimensions are in millimeter								
Reel Option	D	D1	D2	G	H	I	W1	W2
7" Dia	Ø180.00	60.00	R32.00	R86.50	R30.00	Ø13.00	13.20	16.50

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
1000 pcs	7 inch	10,000 pcs	203×203×195	40,000 pcs	438×438×220	