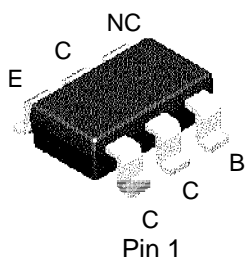


FMBS549



Package: SuperSOT-6 single

Mark : .S1

PNP Low Saturation Transistor

This device is designed with high current gain and low saturation voltage with collector currents up to 2A continuous. Sourced from process PB.

Absolute Maximum Ratings*

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	35	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current- Continuous - Peak Pulse Current	1 2	A A
T_J, T_{STG}	Operating and Storage Junction Temperature Range	-55 to +150	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:

- 1) These ratings are based on a maximum junction temperature of 150°C .
- 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

$T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Characteristics	Max	Units
P_D	Total Device Dissipation*	700	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient, total	180	$^\circ\text{C/W}$

*Device mounted on a 1 in² pad of 2 oz copper.

PNP Low Saturation transistor
(continued)

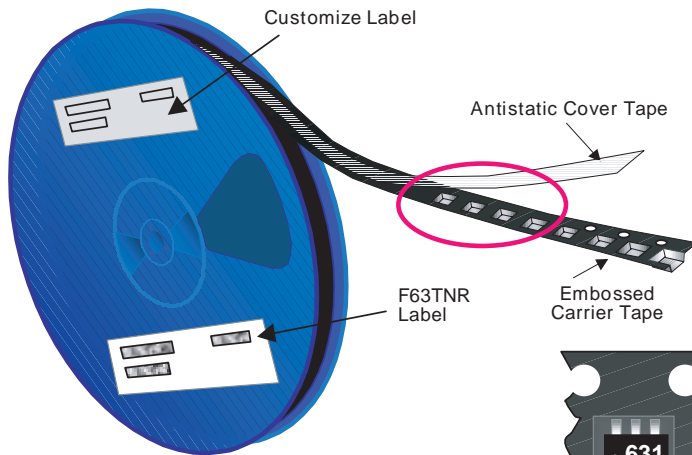
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector to Emitter Voltage	$I_c = 10\text{ mA}$	30		V
BV_{CBO}	Collector to Base Voltage	$I_c = 100\text{ }\mu\text{A}$	35		V
BV_{EBO}	Emitter to Base Voltage	$I_e = 100\text{ }\mu\text{A}$	5		V
I_{CBO}	Collector Cutoff Current	$V_{cb} = 30\text{ V}$ $V_{cb} = 30\text{ V}, T_a = 100^\circ\text{C}$		100 10	nA uA
I_{EBO}	Emitter Cutoff Current	$V_{eb} = 4\text{ V}$		100	nA
ON CHARACTERISTICS					
h_{FE}	DC Current Gain	$V_{ce} = 2\text{ V}, I_c = 50\text{ mA}$ $V_{ce} = 2\text{ V}, I_c = 500\text{ mA}$ $V_{ce} = 2\text{ V}, I_c = 1\text{ A}$ $V_{ce} = 2\text{ V}, I_c = 2\text{ A}$ $V_{ce} = 0.8\text{ V}, I_c = 500\text{ mA}$	70 100 80 40 100	300	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_c = 250\text{ mA}, I_b = 25\text{ mA}$ $I_c = 500\text{ mA}, I_b = 50\text{ mA}$ $I_c = 1\text{ A}, I_b = 100\text{ mA}$ $I_c = 2\text{ A}, I_b = 200\text{ mA}$		200 350 500 750	mV mV mV mV
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_c = 1\text{ A}, I_b = 100\text{ mA}$		1.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	$I_c = 1\text{ A}, V_{ce} = 2\text{ V}$		1	V
SMALL SIGNAL CHARACTERISTICS					
C_{obo}	Output Capacitance	$V_{cb} = 10\text{ V}, f = 1\text{ MHz}$		25	pF
f_T	Current Gain - Bandwidth Product	$V_{ce} = 5\text{ V}, I_c = 100\text{ mA}, f = 100\text{ MHz}$	100		MHz

SuperSOT™-6 Tape and Reel Data and Package Dimensions



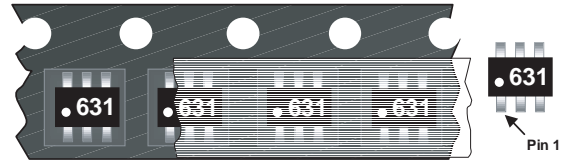
SSOT-6 Packaging Configuration: Figure 1.0



Packaging Description:

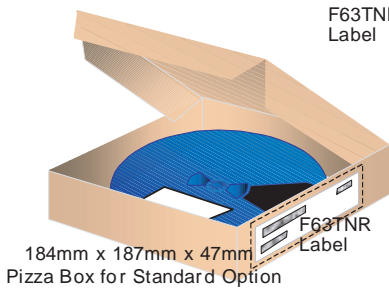
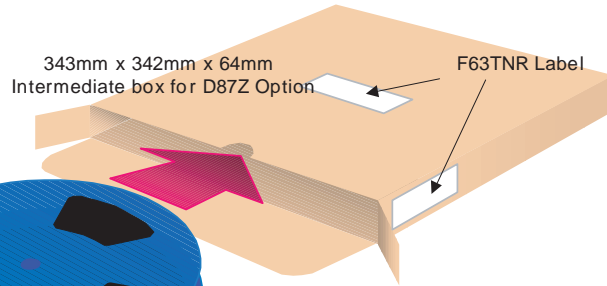
SSOT-6 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 177cm diameter reel. The reels are dark blue in color and is made of polystyrene plastic (anti-static coated). Other option comes in 10,000 units per 13" or 330cm diameter reel. This and some other options are described in the Packaging Information table.

These full reels are individually barcode labeled and placed inside a pizza box (illustrated in figure 1.0) made of recyclable corrugated brown paper with a Fairchild logo printing. One pizza box contains three reels maximum. And these pizza boxes are placed inside a barcode labeled shipping box which comes in different sizes depending on the number of parts shipped.



SSOT-6 Unit Orientation

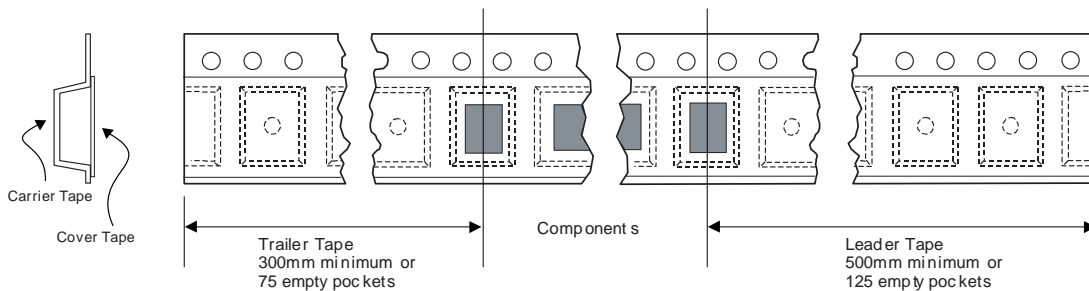
SSOT-6 Packaging Information		
Packaging Option	Standard (no flow code)	D87Z
Packaging type	TNR	TNR
Qty per Reel/Tube/Bag	3,000	10,000
Reel Size	7" Dia	13"
Box Dimension (mm)	184x187x47	343x343x64
Max qty per Box	9,000	30,000
Weight per unit (gm)	0.0158	0.0158
Weight per Reel (kg)	0.1440	0.4700
Note/Comments		



F63TNR Label sample

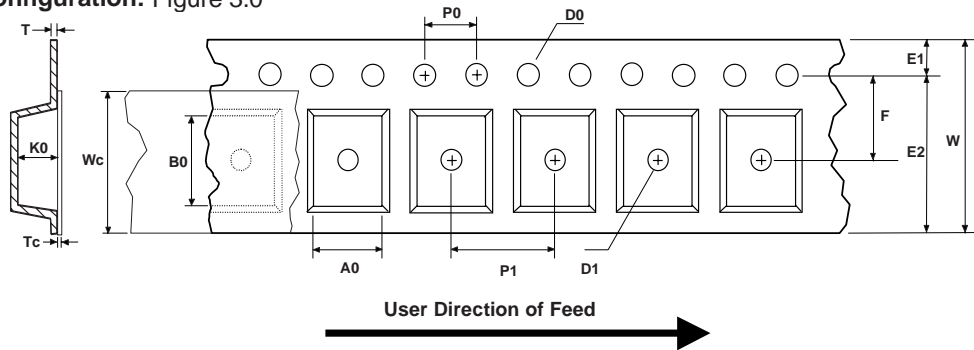


SSOT-6 Tape Leader and Trailer Configuration: Figure 2.0



SuperSOT™-6 Tape and Reel Data and Package Dimensions, continued

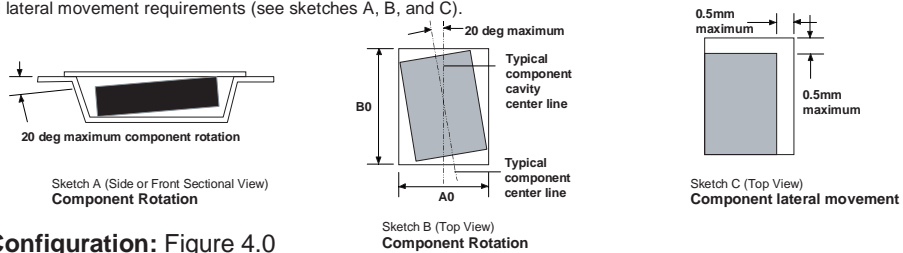
SSOT-6 Embossed Carrier Tape Configuration: Figure 3.0



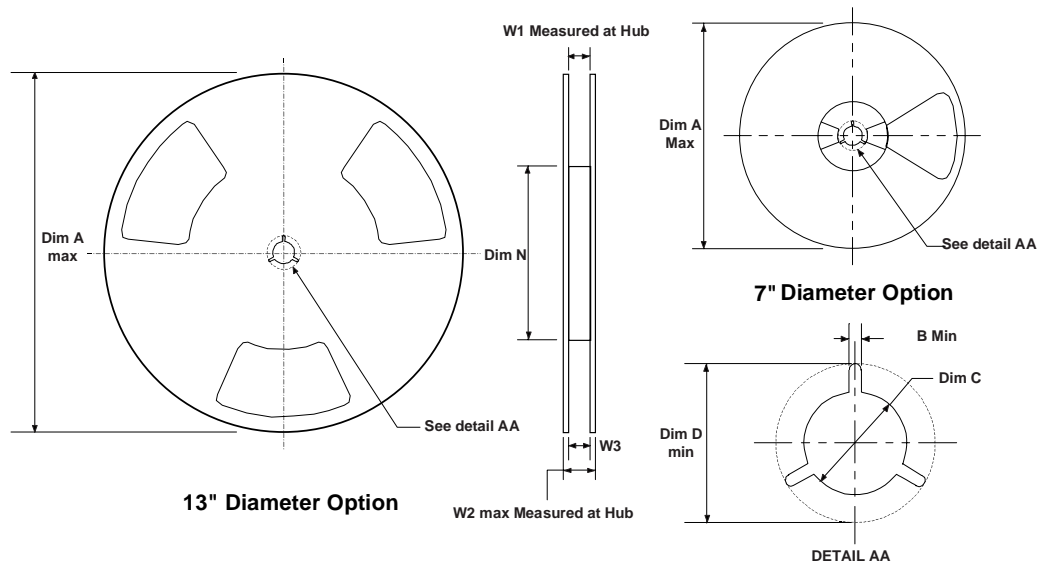
Dimensions are in millimeter

Pkg type	A0	B0	W	D0	D1	E1	E2	F	P1	P0	K0	T	Wc	Tc
SSOT-6 (8mm)	3.23 +/-0.10	3.18 +/-0.10	8.0 +/-0.3	1.55 +/-0.05	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.1	4.0 +/-0.1	1.37 +/-0.10	0.255 +/-0.150	5.2 +/-0.3	0.06 +/-0.02

Notes: A0, B0, and K0 dimensions are determined with respect to the EIA/Jedec RS-481 rotational and lateral movement requirements (see sketches A, B, and C).



SSOT-6 Reel Configuration: Figure 4.0

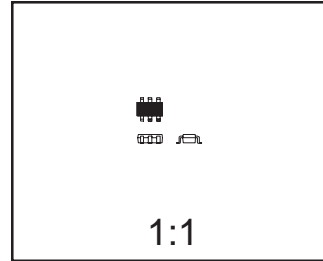
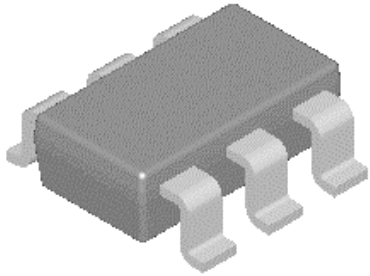


Dimensions are in inches and millimeters

Tape Size	Reel Option	Dim A	Dim B	Dim C	Dim D	Dim N	Dim W1	Dim W2	Dim W3 (LSL-USL)
8mm	7" Dia	7.00 177.8	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	2.165 55	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4	0.311 - 0.429 7.9 - 10.9
8mm	13" Dia	13.00 330	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	4.00 100	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4	0.311 - 0.429 7.9 - 10.9

SuperSOT™-6 Tape and Reel Data and Package Dimensions, continued

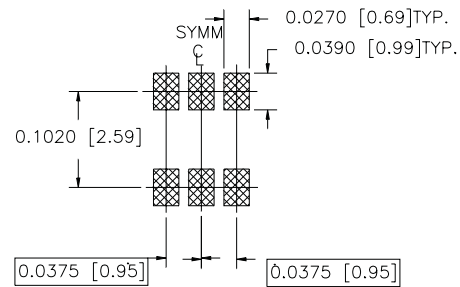
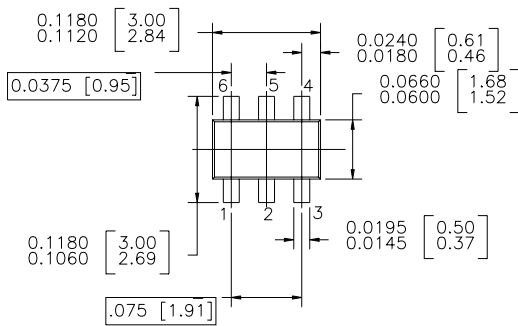
SuperSOT -6 (FS PKG Code 31, 33)



Scale 1:1 on letter size paper

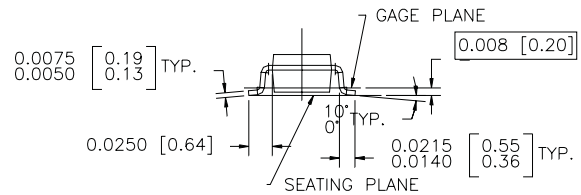
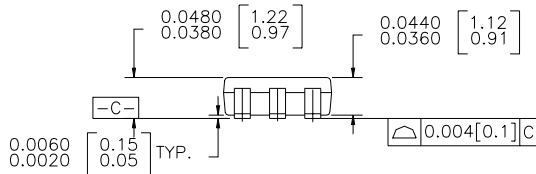
Dimensions shown below are in:
inches [millimeters]

Part Weight per unit (gram): 0.0158



LAND PATTERN RECOMMENDATION

CONTROLLING DIMENSION IS INCH
VALUES IN [] ARE MILLIMETERS



SUPER SOT 6 LEADS

NOTES : UNLESS OTHERWISE SPECIFIED

1.0 STANDARD LEAD FINISH : 150 MICRINCHES 93.81 MICROMETERS)
MINIMUM TIN / LEAD (SOLDER) ON COPPER.

2.0 NO JEDEC REGISTRATION AS OF JULY 1996

TRADEMARKS

The following are registered and unregistered trademarks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

ACEx™	ISOPLANAR™	SyncFET™
CoolFET™	MICROWIRE™	TinyLogic™
CROSSVOLT™	POP™	UHC™
E ² CMOS™	PowerTrench®	VCX™
FACT™	QFET™	
FACT Quiet Series™	QS™	
FAST®	Quiet Series™	
FASTr™	SuperSOT™-3	
GTO™	SuperSOT™-6	
HiSeC™	SuperSOT™-8	

DISCLAIMER

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS.

LIFE SUPPORT POLICY

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, or (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

PRODUCT STATUS DEFINITIONS

Definition of Terms

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data, and supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.