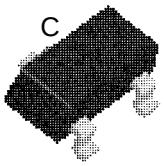
FAIRCHILD
SEMICONDUCTOR TM

FMMT449



SuperSOT™-3

NPN Low Saturation Transistor

These devices are designed with high current gain and low saturation voltage with collector currents up to 2A continuous. Sourced from Process NB.

Absolute Maximum Ratings* $T_{A = 25°C}$ unless otherwise noted

Symbol	Parameter	FMMT449	Units
V_{CEO}	Collector-Emitter Voltage	30	V
V_{CBO}	Collector-Base Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current - Continuous - Peak Pulse Current	1 2	A
T_J, T_{stg}	Operating and Storage Junction Temperature Range	-55 to +150	°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 $T_{A = 25°C}$ unless otherwise noted

Symbol	Characteristic	Max	Units
		FMMT449	
P_D	Total Device Dissipation* Derate above 25°C	500 4	mW mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	250	°C/W

*Device mounted on FR-4 PCB 4.5" X 5"; mounting pad 0.02 in^2 of 2oz copper.

NPN Low Saturation Transistor
(continued)

Electrical Characteristics
$T_{A = 25°C \text{ unless otherwise noted}}$

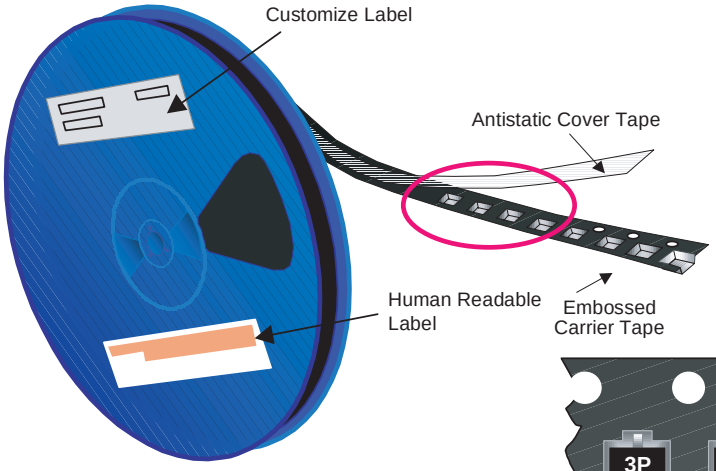
Symbol	Parameter	Test Conditions	Min	Max	Units
OFF CHARACTERISTICS					
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 10 mA	30		V
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 1mA	50		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 100 µA	5		V
I_{CBO}	Collector Cutoff Current	V_{CB} = 40 V V_{CB} = 40 V, Ta=100°C		100 10	nA uA
I_{EBO}	Emitter Cutoff Current	V_{EB} = 4V		100	nA
ON CHARACTERISTICS*					
h_{FE}	DC Current Gain	I_C = 50 mA, V_{CE} = 2V I_C = 500 mA, V_{CE} = 2V I_C = 1A, V_{CE} = 2V I_C = 2A, V_{CE} = 2V	70 100 80 40	 300 	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	I_C = 1 A, I_B = 100 mA I_C = 2 A, I_B = 200 mA		500 1.0	mV V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	I_C = 1 A, I_B = 100 mA		1.25	V
$V_{BE(on)}$	Base-Emitter On Voltage	I_C = 1 A, V_{CE} = 2 V		1	V
SMALL SIGNAL CHARACTERISTICS					
C_{obo}	Output Capacitance	V_{CB} = 10 V, I_E = 0, f = 1MHz		15	pF
f_T	Transition Frequency	I_C = 50mA,V_{CE} = 10 V, f=100MHz	150		MHz

*Pulse Test: Pulse Width ≤ 300 µs, Duty Cycle ≤ 2.0%

SuperSOT™-3 Tape and Reel Data and Package Dimensions

FAIRCHILD SEMICONDUCTOR™

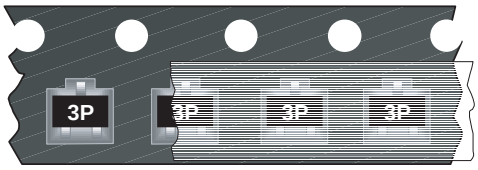
SSOT-3 Packaging Configuration: Figure 1.0



Packaging Description:

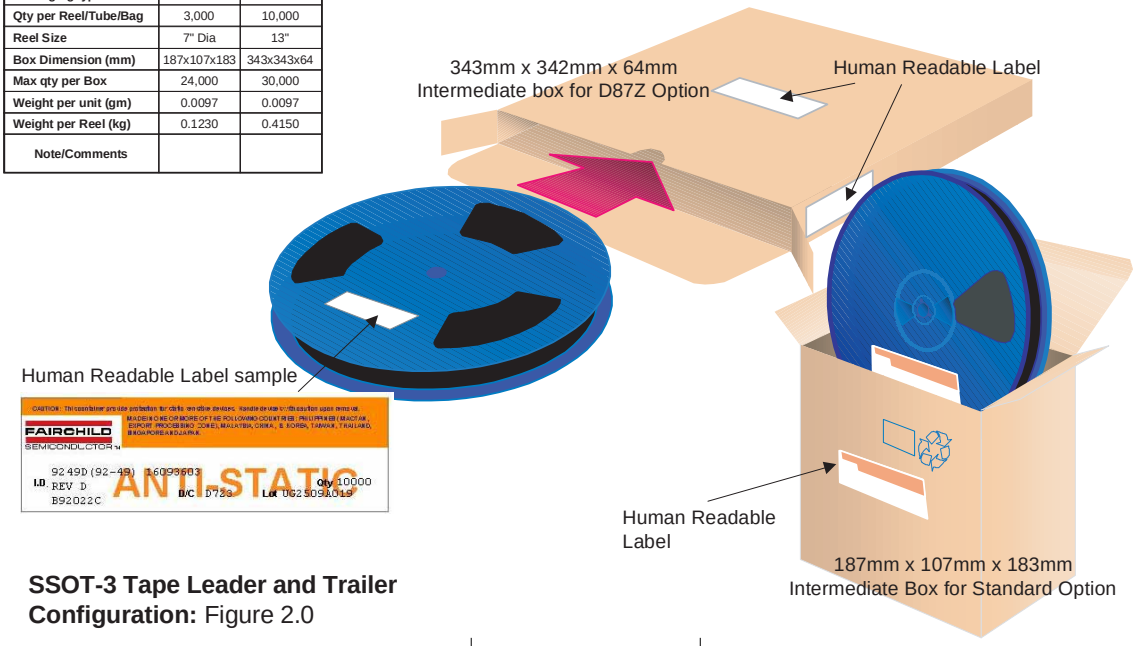
SSOT-3 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in 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 labeled and placed inside a standard intermediate made of recyclable corrugated brown paper with a Fairchild logo printing. One pizza box contains eight reels maximum. And these intermediate boxes are placed inside a labeled shipping box which comes in different sizes depending on the number of parts shipped.

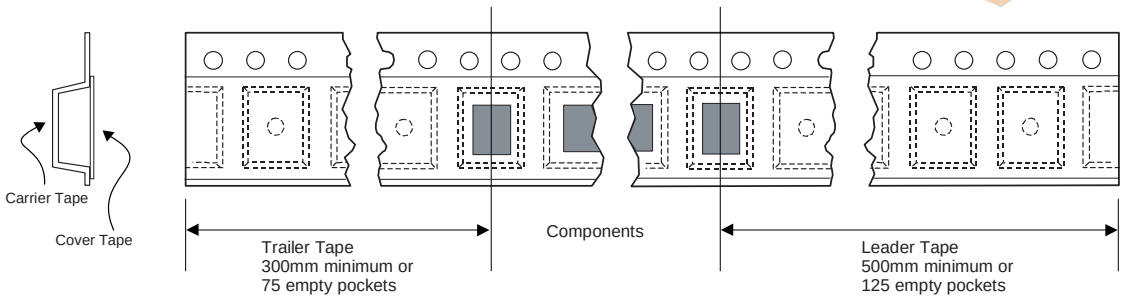


SSOT-3 Std Packaging Information		
Packaging Option	Standard (no flow code)	D87Z
Packaging type	TNR	TNR
Qty per Reel/Tube/Bag	3,000	10,000
Reel Size	7" Dia	13"
Box Dimension (mm)	187x107x183	343x343x64
Max qty per Box	24,000	30,000
Weight per unit (gm)	0.0097	0.0097
Weight per Reel (kg)	0.1230	0.4150
Note/Comments		

SSOT-3 Std Unit Orientation

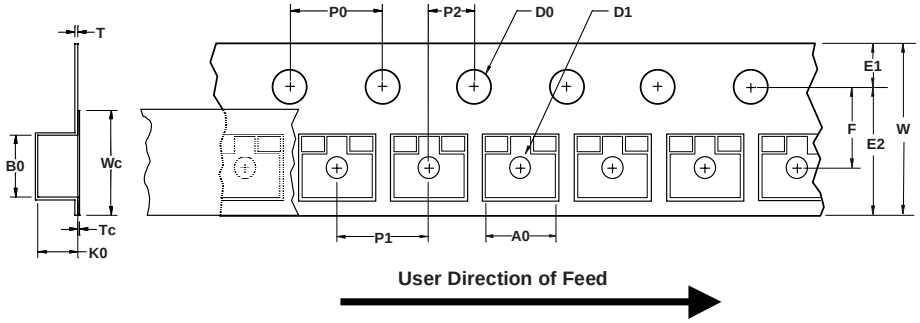


SSOT-3 Tape Leader and Trailer Configuration: Figure 2.0



SuperSOT™-3 Tape and Reel Data and Package Dimensions, continued

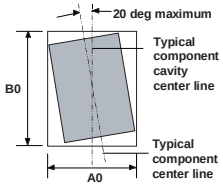
SSOT-3 Embossed Carrier Tape
Configuration: Figure 3.0



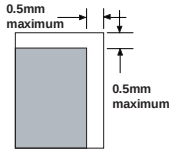
Dimensions are in millimeter														
Pkg type	**A0**	**B0**	**W**	**D0**	**D1**	**E1**	**E2**	**F**	**P1**	**P0**	**K0**	**T**	**Wc**	**Tc**
SSOT-3 (8mm)	3.15 +/-0.10	2.77 +/-0.10	8.0 +/-0.3	1.55 +/-0.05	1.125 +/-0.125	1.75 +/-0.10	6.25 min	3.50 +/-0.05	4.0 +/-0.1	4.0 +/-0.1	1.30 +/-0.10	0.228 +/-0.013	5.2 +/-0.3	0.06 +/-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).

Sketch A (Side or Front Sectional View)
Component Rotation

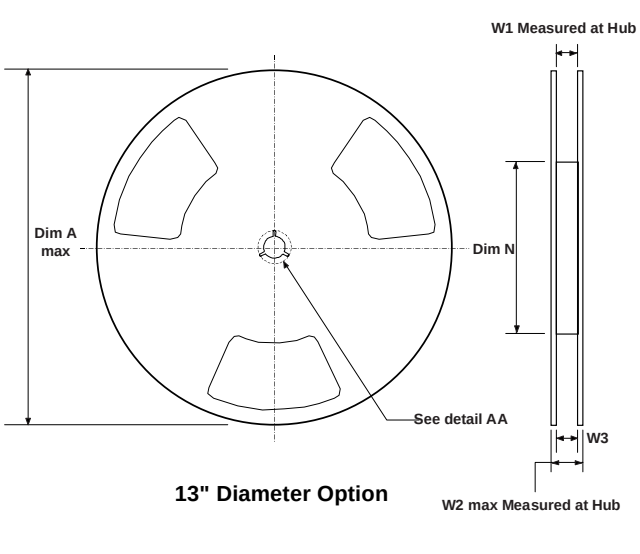


Sketch B (Top View)
Component Rotation

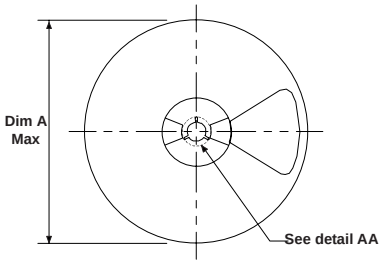


Sketch C (Top View)
Component lateral movement

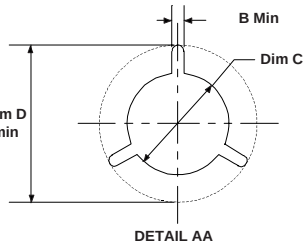
SSOT-3 Reel Configuration: Figure 4.0



13" Diameter Option



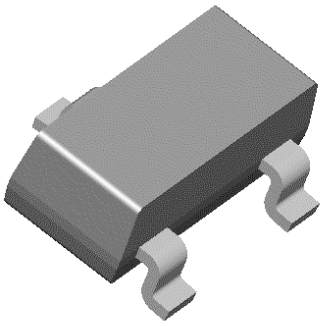
7" Diameter Option

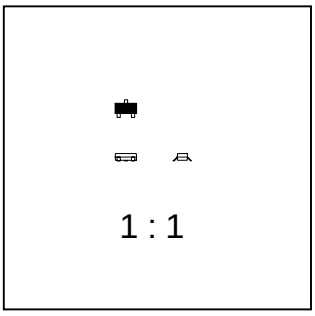


Dimensions are in inches and millimeters									
Tape Size	**Reel Option**	**Dim A**	**Dim B**	**Dim C**	**Dim D**	**Dim N**	**Dim W1**	**Dim W2**	**Dim W3 (LSL-USL)**
8mm	7" Dia	7.00 177.8	0.059 1.5	512 +0.020/-0.008 13 +0.5/-0.2	0.795 20.2	2.165 55	0.331 +0.059/-0.000 8.4 +1.5/0	0.567 14.4	0.311 – 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™-3 Tape and Reel Data and Package Dimensions, continued

SuperSOT™-3 (FS PKG Code 32)

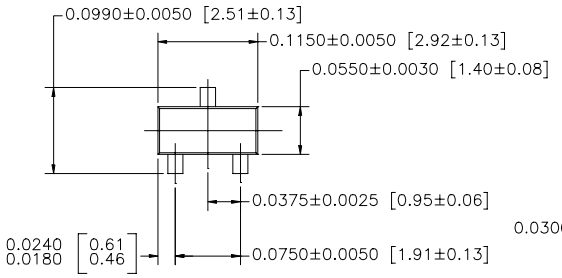


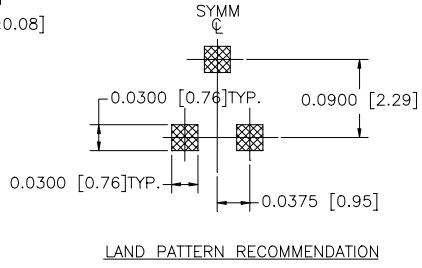


Scale 1:1 on letter size paper

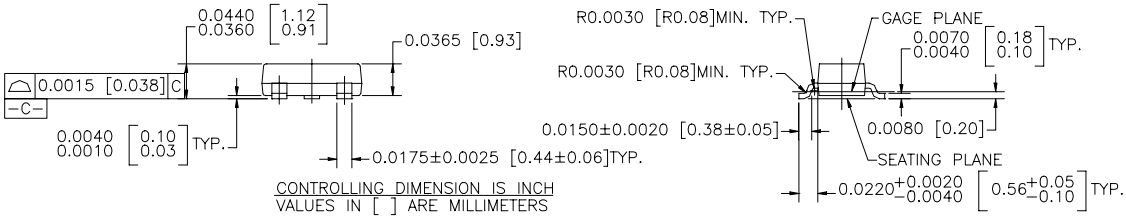
Dimensions shown below are in:
inches [millimeters]

Part Weight per unit (gram): 0.0097





LAND PATTERN RECOMMENDATION



NOTES : UNLESS OTHERWISE SPECIFIED

SUPER SOT , 3 LEADS

1. STANDARD LEAD FINISH TO BE 150 MICROINCHES / 3.81 MICROMETERS MINIMUM TIN/LEAD (SOLDER) ON COPPER.
2. NO JEDEC REGISTRATION AS OF DEC. 1995.

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