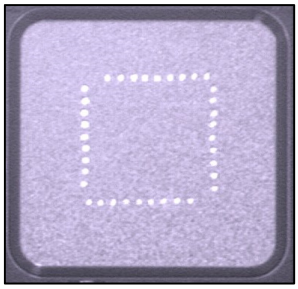
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FAIRCHILD

STEALTH™ II Rectifier Diode Chip

FFP30S60S

600V, 30A, V_F 2.1V, t_{rr} = 28ns



Part	V_{RRM}	$I_{F(AV)n}$	$V_{F\ Typ}$	$t_{rr\ Typ}$	Die Size
FFP30S60S	600V	30A	2.1V	28ns	3.7 x 3.7 mm^2
See page 2 for ordering part numbers & supply formats					

Applications

- General Purpose
- Free Wheeling Diode

Features

- Hyperfast Soft Recovery t_{rr} = 28ns @ I_F = 30A
- Low Stored Charge
- Avalanche Energy Rated

Maximum Ratings

Symbol	Parameter	Ratings	Units
V_{RRM}	Peak Repetitive Reverse Voltage	600	V
V_{RWM}	Working Peak Reverse Voltage	600	V
V_R	DC Blocking Voltage	600	V
$I_{F(AV)}$	Average Rectified Forward Current @ T_C = 103°C[1]	30	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	300	A
T_J, T_{STG}	Operation Junction & Storage Temperature	-65 to 150	°C

Electrical Characteristics, T_J = 25° unless otherwise noted

Symbol	Parameter	Test Conditions		Min	Typ	Max	Units
V_F	Forward Voltage[2]	I_F = 30A	T_C = 25°C	-	2.1	2.6	V
			T_C = 125°C	-	1.6	-	
I_R	Reverse Current[2]	V_R = 600V	T_C = 25°C	-	-	100	µA
			T_C = 125°C	-	-	500	
t_{rr}	Reverse Recovery Time[3]	I_F = 1A,dI/dt = 100A/µs, V_R= 30V	T_C = 25°C	-	25	-	ns
		I_F = 30A, dI/dt = 200A/µs, V_R= 390V	T_C = 25°C	-	28	-	
			T_C = 125°C	-	75	-	
I_{rr}	Reverse Recovery Current[3]		T_C = 25°C	-	2.4	-	A
			T_C = 125°C	-	6.3	-	
S factor	Softness Factor[3]		T_C = 25°C	-	0.9	-	
			T_C = 125°C	-	0.9	-	
Q_{rr}	Reverse Recovery Charge[3]		T_C = 25°C	-	34	-	nC
			T_C = 125°C	-	236	-	
W_{AVL}	Avalanche Energy (L = 40mH)[3]			20	-	-	mJ

Notes: 1. Performance will vary based on assembly technique and substrate choice. 2. Pulse: Test Pulse width = 300µs, Duty Cycle = 2%
3. Tested in discrete package, not subject to 100% test at wafer level

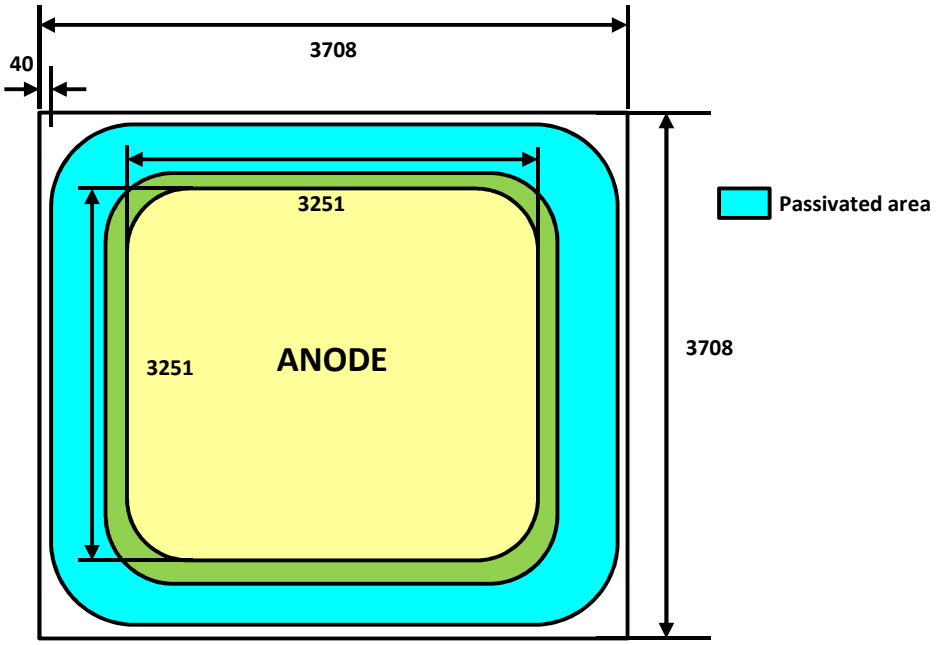
Further Information - Contact your Micross sales office or email your enquiry to baredie@micross.com

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Ordering Guide

Part Number	Format	Detail / Drawing
FFP30S60SMW	Un-sawn wafer, electrical rejects inked	Page 2
FFP30S60SMF	Sawn wafer on film-frame	Page 3
FFP30S60SMD	Singulated die / chips in waffle pack	Page 3
Note: Singulated Die / Chips can also be supplied in Pocket Tape or SurfTape® on request		

Die Drawing – Dimensions in µm



Chip backside is CATHODE

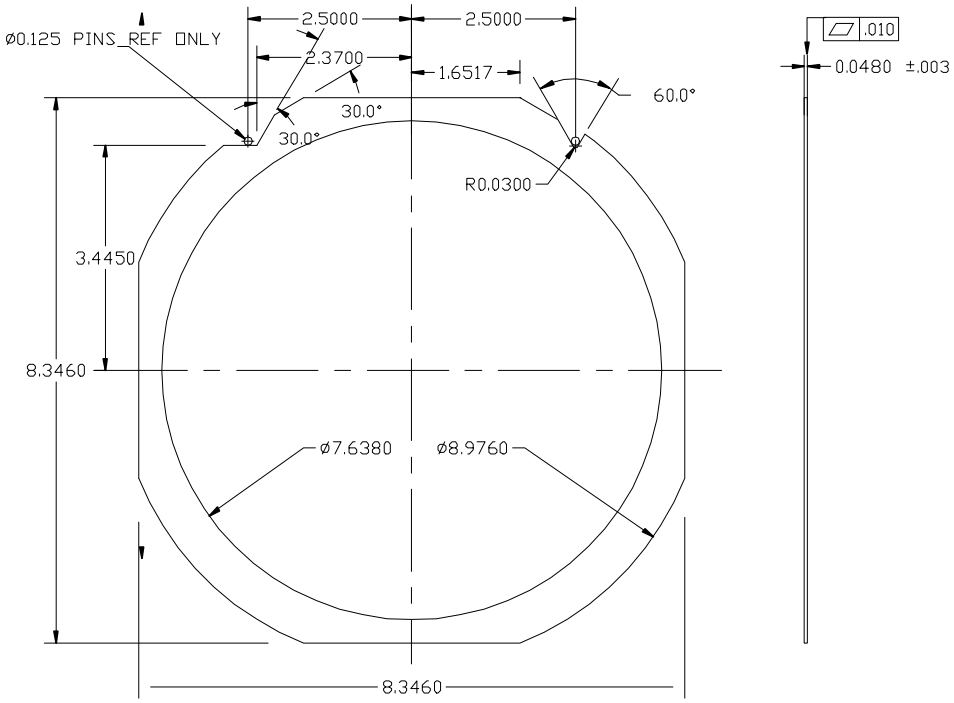
Mechanical Data

Parameter			Units
Chip Dimensions Un-sawn	3708 x 3708		µm
Chip Thickness (Nominal)	250		µm
Anode Pad Size	3251 x 3251		µm
Wafer Diameter	127 (subject to change)		mm
Saw Street	80 (subject to change)		µm
Wafer orientation on frame	Wafer notch parallel with frame flat		
Topside Metallisation & Thickness	Al	6	µm
Backside Metallisation & Thickness	V/Ni/Ag	0.3	µm
Topside Passivation	Silicon Nitride		
Recommended Die Attach Material	Soft Solder or Conductive Epoxy		
Recommended Wire Bond - Anode	Al 380µm X2		

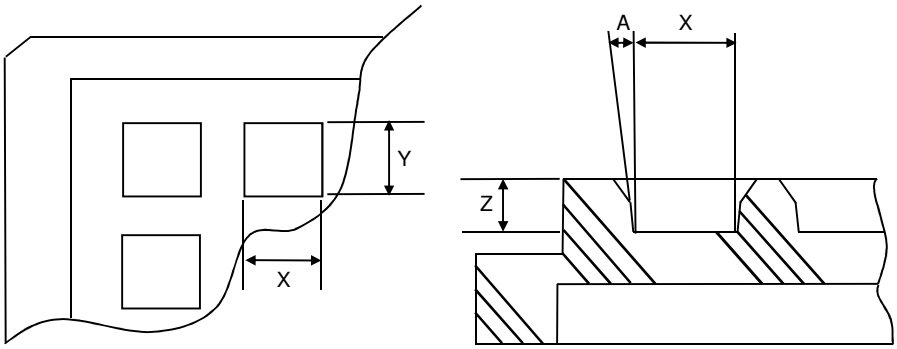
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Sawn Wafer on Film-Frame – Dimensions (inches)



Die in Waffle Pack – Dimensions (mm)



X = 3.81mm ±0.13mm pocket size
Y = 3.81mm ±0.13mm pocket size
Z = 0.41mm ±0.05mm pocket depth
A = 5° ±1/2° pocket draft angle
No Cross Slots
Array = 10 X 10 (100)

OVERALL TRAY SIZE

Size = 50.67mm ±0.25mm
Height = 3.94mm ±0.13mm
Flatness = 0.30mm

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