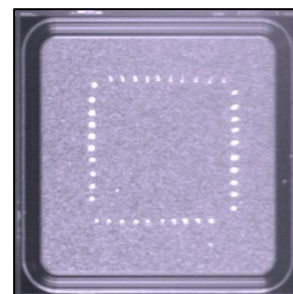


## Hyperfast Rectifier Diode Chip

# FFH75H60S

**600V, 75A,  $V_F$  1.8V,  $t_{rr}$  = 40ns**

Part	$V_{RRM}$	$I_{F(AV)}$	$V_{F(Typ)}$	$t_{rr(Typ)}$	Die Size
FFH75H60S	600V	75A	1.8V	40ns	5.5 x 5.5 mm <sup>2</sup>
See page 2 for ordering part numbers & supply formats					



### Applications

- General Purpose
- Free Wheeling Diode

### Features

- Hyperfast Recovery,  $t_{rr}$  = 40ns @  $I_F$  = 75A
- 600V Reverse Voltage & High Reliability
- 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 @ $T_C = 105^\circ\text{C}^1$	75	A
$I_{FSM}$	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	750	A
$T_J, T_{STG}$	Operation Junction & Storage Temperature	-65 to 150	°C

### Electrical Characteristics, $T_J = 25^\circ$ unless otherwise noted

Symbol	Parameter	Test Conditions		Min	Typ	Max	Units
V <sub>F</sub>	Forward Voltage <sup>2</sup>	I <sub>F</sub> = 75A	T <sub>C</sub> = 25°C	-	1.8	2.2	V
			T <sub>C</sub> = 125°C	-	1.6	2.0	V
I <sub>R</sub>	Reverse Current <sup>2</sup>	V <sub>R</sub> = 600V	T <sub>C</sub> = 25°C	-	-	100	μA
			T <sub>C</sub> = 125°C	-	-	1.0	mA
t <sub>rr</sub>	Reverse Recovery Time <sup>3</sup>	I <sub>F</sub> =75A, dI/dt =200A/μs V <sub>CC</sub> = 390V	T <sub>C</sub> = 25°C	-	40	-	ns
			T <sub>C</sub> = 125°C	-	85	-	
t <sub>a</sub>	Current Rise Time <sup>3</sup>	I <sub>F</sub> =75A, dI/dt =200A/μs, V <sub>CC</sub> = 390V	-	-	23	-	
t <sub>b</sub>	Current Fall Time <sup>3</sup>		-	-	17	-	
Q <sub>rr</sub>	Reverse Recovery Charge <sup>3</sup>		-	-	80	-	nC
W <sub>AVL</sub>	Avalanche Energy (L = 40mH) <sup>3</sup>			20	-	-	mJ

#### Notes:

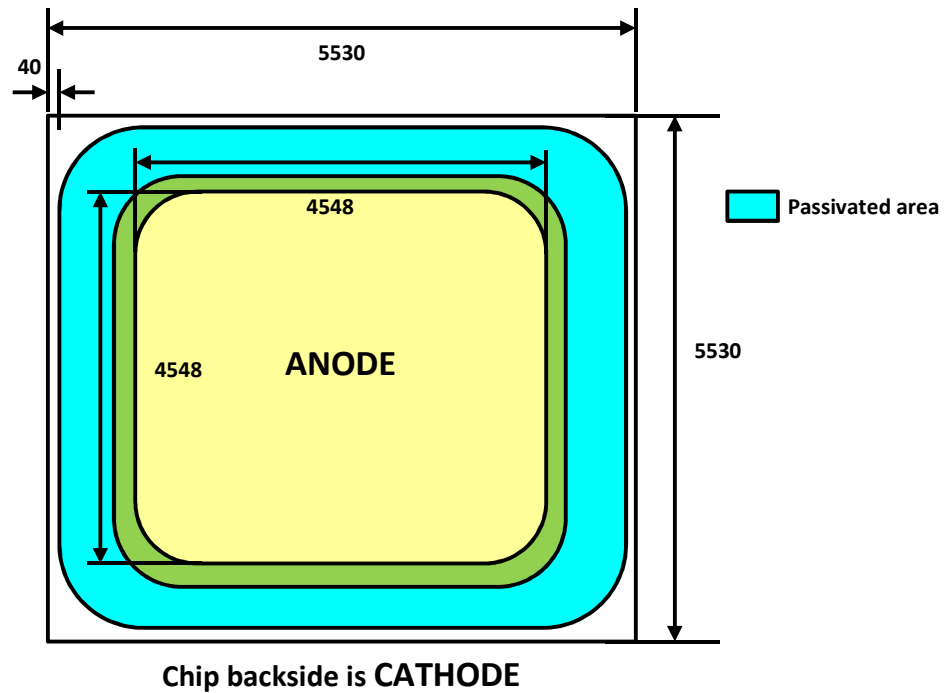
1. Performance will vary based on assembly technique and substrate choice
2. Pulse: Test Pulse width = 300μs, Duty Cycle = 2%
3. Specified in discrete package, not subject to 100% production test at wafer level

**Further Information** - Contact your [Microcross sales office](#) or email your enquiry to [baredie@microcross.com](mailto:baredie@microcross.com)

## Ordering Guide

Part Number	Format	Detail / Drawing
FFH75H60SMW	Un-sawn wafer, electrical rejects inked	Page 2
FFH75H60SMF	Sawn wafer on film-frame	Page 3
FFH75H60SMD	Singulated die / chips in waffle pack	Page 3
Note: Singulated Die / Chips can also be supplied in Pocket Tape or SurfTape® on request		

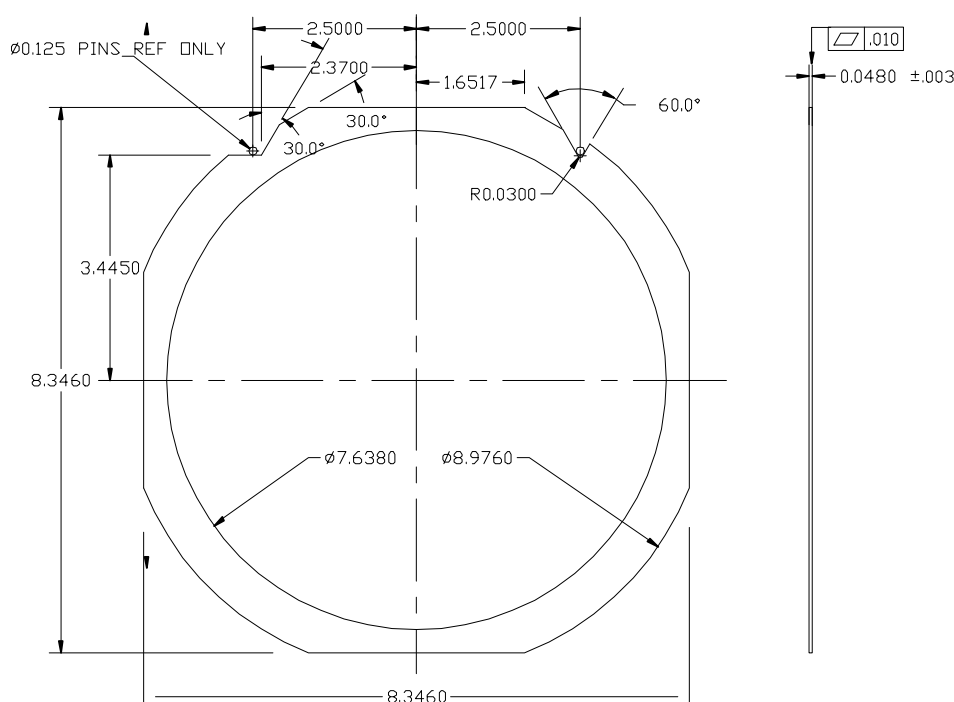
## Die Drawing – Dimensions in $\mu\text{m}$



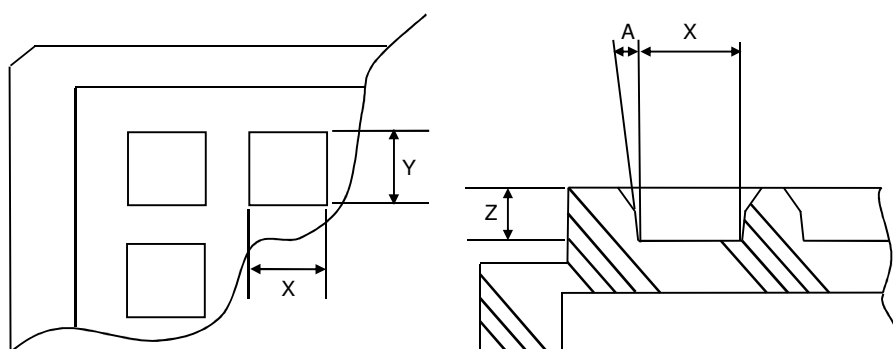
## Mechanical Data

Parameter				Units
Chip Dimensions Un-sawn	5530 x 5530			$\mu\text{m}$
Chip Thickness (Nominal)	250			$\mu\text{m}$
Anode Pad Size	4548 x 4548			$\mu\text{m}$
Wafer Diameter	150 (subject to change)			mm
Saw Street	80 (subject to change)			$\mu\text{m}$
Wafer orientation on frame	Wafer notch parallel with frame flat			
Topside Metallisation & Thickness	Al	4		$\mu\text{m}$
Backside Metallisation & Thickness	V/Ni/Ag	0.3		$\mu\text{m}$
Topside Passivation	Silicon Nitride			
Recommended Die Attach Material	Soft Solder or Conductive Epoxy			
Recommended Wire Bond - Anode	Al 500 $\mu\text{m}$ X3			

## Sawn Wafer on Film-Frame – Dimensions (inches)



## Die in Waffle Pack – Dimensions (mm)



$X = 5.82\text{mm} \pm 0.13\text{mm}$  pocket size  
 $Y = 5.82\text{mm} \pm 0.13\text{mm}$  pocket size  
 $Z = 0.81\text{mm} \pm 0.08\text{mm}$  pocket depth  
 $A = 5^\circ \pm 1/2^\circ$  pocket draft angle  
 No Cross Slots  
 Array = 6 X 6 (36)

### OVERALL TRAY SIZE

Size =  $50.67\text{mm} \pm 0.25\text{mm}$   
 Height =  $3.94\text{mm} \pm 0.13\text{mm}$   
 Flatness = 0.30mm

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