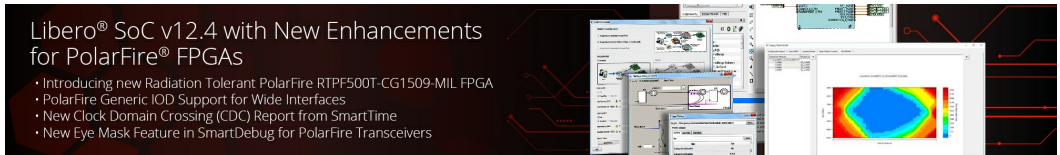


FPGA & SoC

- ▶ FPGA & SoC Design Tools
  - ▶ FPGA Design Tools
  - ▶ SoC Design Tools
  - ▶ Debug
  - ▶ DSP Design Tools
  - ▶ Design Resources
  - ▶ Programming
    - Silicon Sculptor
    - Embedded Programming
    - **Silicon Sculptor Adapter Modules**
    - FlashPro
    - Secure Production Programming
- ▶ Rad-Tolerant FPGAs
- ▶ Getting Started
- ▶ FPGAs
- ▶ SoC FPGAs
- ▶ Antifuse FPGAs
- ▶ FPGA Applications
- ▶ Mi-V RISC-V Ecosystem
- ▶ Boards and Kits
- ▶ FPGA & SoC Partners
- ▶ Key Technologies & Solutions
- ▶ Low Power Leadership



Home / Products & Services / FPGA & SoC / FPGA & SoC Design Tools / Programming / Silicon Sculptor Adapter Modules

## Silicon Sculptor Adapter Modules

### Overview

Silicon Sculptor adapter modules are package-specific and dependent on the product family, but are independent of gate count. Silicon Sculptor Adapter Modules

- SmartFusion2 and IGLOO2
- IGLOO, ProASIC3 and Fusion
- SmartFusion
- ProASIC3, ProASICPLUS, and ProASIC
- Axcelerator and RTAX-S
- Antifuse Devices up to SX-A and RTSX-S

*Note: All Activator products and modules are obsolete. Microsemi recommends upgrading to the Silicon Sculptor products. Most mature FPGA devices can still be programmed on Activator, but new FPGA families will not be supported on Activator.*

### Life cycles of Microsemi Silicon Sculptor modules

Adapter Type	Typical Insertion cycle life
Module Base	> 50,000 insertions
Standard Pitch Socket Modules	10,000 to 20,000 insertions
BGA Sockets Modules	2,500 to 10,000 insertions

Users should carefully insert and remove the module from the programmer to avoid damage to the DIN connectors. Typical insertion cycles can be prolonged if the module base and socket modules are properly cleaned and maintained. Handling and cleaning practices can affect the number of insertions achieved.

### SmartFusion2 and IGLOO2 Adapter Modules

SmartFusion2 and IGLOO2 devices (including ARM-enabled versions) can be programmed with Silicon Sculptor 3 and Silicon Sculptor II using STAPL programming files. The SM2S series of adapter modules, listed below, have been designed for use with SmartFusion2 and IGLOO2 devices. There is no In-System Programming (ISP) module available for SmartFusion2 and IGLOO2 devices; the FlashPro4 or FlashPro5 programmer must be used for ISP.

Type	Package	Adapter Modules	Details
FBGA	FG676	SM2S-676FG-MSSOC	
	FG484	SM2S-484FG-MSSOC	
	FG896	SM2S-896FG-MSSOC	
VFPBA	VF400	SM2S-400VF-MSSOC	
	VF256	SM2S-256VF-MSSOC	
FCBGA	FC325	SM2S-325FCSR-MSSOC	
	FC1152	SM2S-1152FC-MSSOC	
	FC325	SM2S-325FCS-MSSOC	
VQFP	VQ144	SM2S-144VQ-MSSOC	

### IGLOO, ProASIC3, and Fusion Adapter Modules

IGLOO, ProASIC3, and Fusion devices (including ARM-enabled versions) can be programmed with Silicon Sculptor 3 and Silicon Sculptor II using STAPL programming files. The SM3F series of adapter modules, listed below, have been designed for use with IGLOO, ProASIC3, and Fusion devices. Whilst SMPA series modules may be used for ProASIC3 programming and some IGLOO programming (depending if the module has a driver to the Flash\*Freeze pin), SM3F series modules *must* be used for Fusion programming. All SM3F modules may also be safely used for IGLOO programming. There is no In-System Programming (ISP) module available for IGLOO, ProASIC3, or Fusion devices; the FlashPro4 programmer must be used for ISP.

Type	Package	Adapter Modules	Details
CS	CS81	SM3F-81CS-ACTEL	
	CS121	SM3F-121CS-ACTEL	
	CS196	SM3F-196CS-ACTEL	
	CS201	SM3F-201CS-ACTEL	
	CS281	SM3F-281CS-ACTEL	
	-----		SM3F-289CS-ACTEL

CG	CG484	SM3F-484CG-ACTEL	
	CG896	SM3F-896CG-ACTEL	
CQ	CQ256	SM3F-256CQ-ACTEL	
FBGA	FG256	SM3F-256FG-ACTEL	
	FG324	SM3F-324FG-ACTEL	
	FG484	SM3F-484FG-ACTEL-1	
	FG676	SM3F-676FG-ACTEL	
	FG896	SM3F-896FG-ACTEL	
LG	LG896	SM3F-896LG-ACTEL	
	LG484	SM3F-484LG-ACTEL	
QFN	QN48	SM3F-48QN-ACTEL	
	QN68	SM3F-68QN-ACTEL-1	Notes
	QN108	SM3F-108QN-ACTEL	
	QN132	SM3F-132QN-ACTEL	
	QN180	SM3F-180QN-ACTEL	
PQFP	PQ208	SM3F-208PQ-ACTEL	
UC	UC36	SM3F-36UC-ACTEL	
	UC81	SM3F-81UC-ACTEL	
VQFP	VQ100	SM3F-100VQ-ACTEL	
	VQ128	SM3F-128VQ-ACTEL	
	VQ176	SM3F-176VQ-ACTEL	

### SmartFusion Adapter Modules

SmartFusion devices can be programmed with **Silicon Sculptor 3** and **Silicon Sculptor II** using STAPL programming files along with the adapter modules listed below for the corresponding package. In-System Programming (ISP) is not available via the ISP kit for SmartFusion devices; the **FlashPro4** or **FlashPro3** programmer must be used for ISP.

SmartFusion devices can be programmed with Silicon Sculptor software minimum version 5.8.0, using one of the adapter modules listed below.

Type	Package	Adapter Modules	Details
FBGA	FG484	SMSF-484FG-ACTEL	
FBGA	FG256	SMSF-256FG-ACTEL	
CSP	CS288	SMSF-288CS-ACTEL	

### ProASIC3, ProASIC<sup>PLUS</sup>, and ProASIC Adapter Modules

ProASIC3 devices can be programmed with **Silicon Sculptor 3** and **Silicon Sculptor II** using STAPL programming files along with the adapter modules listed below for the corresponding package. In-System programming is not available via the ISP kit for ProASIC3 devices; the **FlashPro4** programmer must be used for ISP.

ProASIC<sup>PLUS</sup> and ProASIC devices can be programmed with any version of Silicon Sculptor using one of the adapter modules listed below or an ISP kit to perform In-System Programming.

Type	Package	Adapter Modules	Details
CCGA	CCGA624	SMPA-624CG-ACTEL	
CQFP	CQ352	SMPA-352CQ-ACTEL	
	CQ208	SMPA-208CQ-ACTEL	
FBGA	FG144	SMPA-144FG-ACTEL-1	
	FG256	SMPA-256FG-ACTEL-1	
	FG484	SMPA-484FG-ACTEL	
	FG676	SMPA-676FG-ACTEL	
	FG896	SMPA-896FG-ACTEL	
	FG1152	SMPA-1152FG-ACTEL	
ISP	ISP	SMPA-ISP-ACTEL-3 *	Notes
LGA	LGA624	SMPA-624LG-ACTEL	
PBGA	BG272	SMPA-272BG-ACTEL	
	BG456	SMPA-456BG-ACTEL-3	
PQFP	PQ208	SMPA-208PQ-ACTEL-1	Notes
QFN	QN132	SM3F-132QN-ACTEL	
TQFP	TQ100	SMPA-100TQ-ACTEL	
	TQ144	SMPA-144TQ-ACTEL	
VQFP	VQ100	SM3F-100VQ-ACTEL	

Note: Silicon Sculptor Adapter Module SMPA-ISP-ACTEL-3-KIT is discontinued as per the PDN17030. Recommended replacement part is

## Accelerator and RTAX-S Adapter Modules

Accelerator and RTAX-S devices can be programmed with Silicon Sculptor 3 and Silicon Sculptor II using one of the adapter modules listed below.

Type	Package	Adapter Modules	Details
CCGA	CG624	SMAX-624CG-ACTEL	
	CG1152	SMAX-1152CG-ACTEL	
	CG1272	SMAX-1272CG-ACTEL	
CQFP	CQ208	SMAX-208CQ-ACTEL	
	CQ256	SMAX-256CQ-ACTEL	
	CQ352	SMAX-352CQ-ACTEL	Not for RTAX4000S, RTAX2000D, RTAX4000D
SMAX-352CQ4K-ACTEL		Only for RTAX4000S, RTAX2000D, RTAX4000D	
CSP	CS180	SMAX-180CS-ACTEL	
FBGA	FG256	SMAX-256FGS-ACTEL	
	FG324	SMAX-324FG-ACTEL	
	FG484	SMAX-484FGS-ACTEL	
	FG676	SMAX-676FG-ACTEL	
	FG896	SMAX-896FG-ACTEL	
	FG1152	SMAX-1152FG-ACTEL	
LGA	LGA624	SMAX-624LG-ACTEL	
	LGA1152	SMAX-1152LG-ACTEL	
	LGA1272	SMAX-1272LG-ACTEL	
PBGA	BG729	SMAX-729BG-ACTEL	
PQFP	PQ208	SMAX-208PQ-ACTEL	

## Antifuse Adapter Modules

All Microsemi antifuse families up to SX-A and RTSX-S devices can be programmed using the adapter modules listed below. Read the corresponding Notes which explain the existence of more than one module for the same package type or when different revisions of a module exist.

Type	Package	Adapter Modules	Details				
CCLG	CC256	SM256CC-ACTEL					
CPGA	PG84 PG100 PG132 PG133	SM84PG-ACTEL					
			PG175 PG176 PG207	SM175PG-ACTEL			
					PG257	SM257PG-ACTEL	
CQFP	CQ84	SM84CQ-ACTEL	Notes				
		SMSX-84CQ-ACTEL	Notes				
	CQ132 CQ172 CQ196	SM132CQ-ACTEL					
			CQ208 CQ256	SM208CQ-ACTEL-2	Notes		
				SM208CQSX-ACTEL	Notes		
CS	CS49	SM49CS-ACTEL-1	Notes				
	CS128	SM128CS-ACTEL-1	Notes				
	CS180	SM180CS-ACTEL-1	Notes				
FBGA	FG144	SM144FG-ACTEL					
	FG256	SM256FG-ACTEL					
	FG484	SM484FG-ACTEL					
	FG676	SM676FG-ACTEL					
	FG896	SM896FG-ACTEL					
PBGA	BG225	SM225BG-ACTEL					
	BG272	SM272BG-ACTEL-2	Notes				
	BG313	SM313BG-ACTEL-2	Notes				
	BG329	SM329BG-ACTEL					
	BG729	SM729BG-ACTEL					
		SM44P-ACTEL					

PLCC	PL68	SM68P-ACTEL	
	PL84	SM84P-ACTEL-2	Notes
PQFP	PQ100	SM100PQ-ACTEL	
	PQ144	SM144PQ-ACTEL	
	PQ160	SM160PQ-ACTEL-1	Notes
PQFP RQFP	PQ208 RQ208	SM208PQ-ACTEL-3	Notes
	PQ240 RQ240	SM240RQ-ACTEL-1	Notes
TQFP	TQ64	SM64TQ-ACTEL	
	TQ144	SM144TQ-ACTEL	
	TQ176	SM176TQ-ACTEL-1	Notes
TQFP VQFP	TQ100 VQ100	SM100VQ-ACTEL-3	Notes
VQFP	VQ80	SM80VQ-ACTEL	

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