Analog IP Cell
HV StartUp Circuit
STARTUP XC06

General Description

The high voltage start-up cell STARTUP XC06 is used as start-up, stand-by and Vdd monitor circuit in a high voltage integrated circuit. It observes the supply voltage and generates power up and power down signals at predefined Vdd voltage levels. A wide operational supply voltage range (8VDC to 25VDC) ensures reliable power on of circuits starting up by a high value resistor (in the mega-Ohm range) and a chip external buffer capacitor.
An additional reference voltage cell is needed defining the voltage levels for power up and power down thresholds.

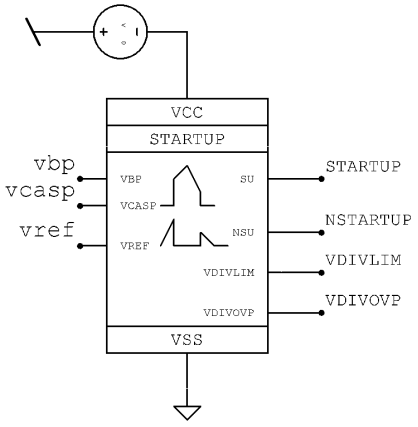
Ratings, Parameters and Conditions

Parameter / Condition	Symbol	Min	Typ.	Max	Unit	Comment
Electrical Parameters:						
Supply Voltage	V_{dd}	8	12	25	V	
Active Supply Current	I_{dd}		500	1600	nA	
Power Up Voltage	$V_{PowerUp}$		21.8		V	
Power Down Voltage	$V_{PowerDown}$		7.9		V	
StartUp active and NStartUp inactive voltage level	V_{SU}		1.1		V	
Reference Input Voltage	Vref		1.22		V	
Absolute Maximum Ratings:						
Operating Temperature	T_{range}	-40		140	℃	
Supply Voltage	V_{dd}	-0.3		25	V	
Input Voltage	V_{in}	-0.3		V_{dd}+0.7		
Output Voltage	V_{out}	-0.3		V_{dd}+0.7		
Operating Conditions:						
Ambient Temperature	T_{amb}	-20	27	80	℃	

IO-Description

Interface	I/O	Function	Comment
VSS	input	Supply	
VCC	Input	Supply	
VBP	Input	Reference	
VCASP	Input	Reference	
VREF	Input	Reference	
STARTUP	Output	Output	
NSTARTUP	Output	Output	
VDIVLIM	Input	Input for gate voltage protection	
VDIVOVP	Input	Input for gate voltage protection	

Block schematic, ext. component diagram



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