

XC6194AA05E-EVB-01 Evaluation Board User Manual

1A Output Current Push Button Smart Load Switch

CAUTION

ENGINEERING EVALUATION PURPOSES ONLY

This evaluation board is made for the purpose of the product evaluation. It is strictly prohibited to use this evaluation board for any other purpose.

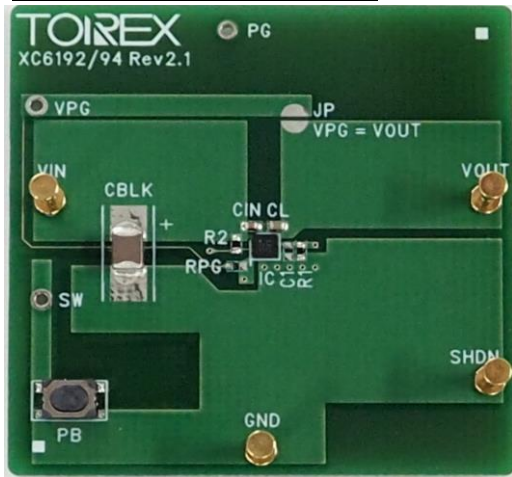
Torex Semiconductor does not guarantee that all samples will perform in exactly the same way and we recommend that you always consult our product data sheets for the minimum and maximum specifications.

It is also important that you evaluate all our products carefully before mass

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Evaluation Board Picture



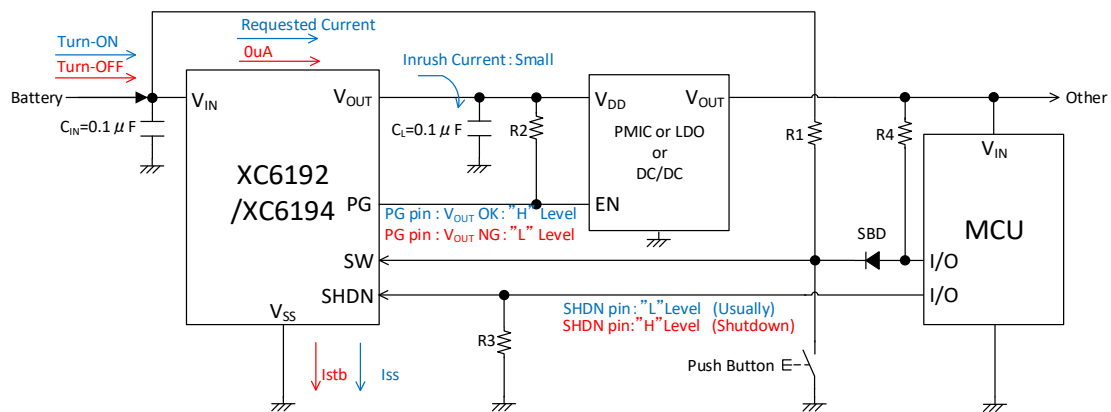
Evaluation Board SPEC

						Ta=25°C
		CONDITON.	MIN.	TYP.	MAX.	UNIT
V _{in}	Input Voltage Range	-	1.8	-	6.0	V
I _{out}	Output Current	-	-	-	1000	mA
I _{STB}	Stand-by Current	-	-0.1	0.001	0.1	uA
Turn-On Delay Time		-	0.18	0.2	0.22	s
Turn-Off Delay Time		-	4.5	5.0	5.5	s

XC6194 Series Features

Solution /Datasheet	V _{in} [V]		I _{out} [mA]	I _{stb} [uA]	I _{ss} [uA]	Turn-on		Turn-off		Function
	Min.	Max.				Operation Method	SW "L" time	Operation Method	SW "L" time	
XC6194A	1.80	6.00	1000	0.001	0.13	SW pin	0.2s / 1s / 3s / 5s	SHDN pin or SW pin	3s / 5s / 10s / 15s	Power Good Forced Shutdown Inrush Current Protection UVLO / Short Protection Thermal Shutdown Output Discharge
XC6194B								SHDN pin	-	

TYPICAL APPLICATION CIRCUIT



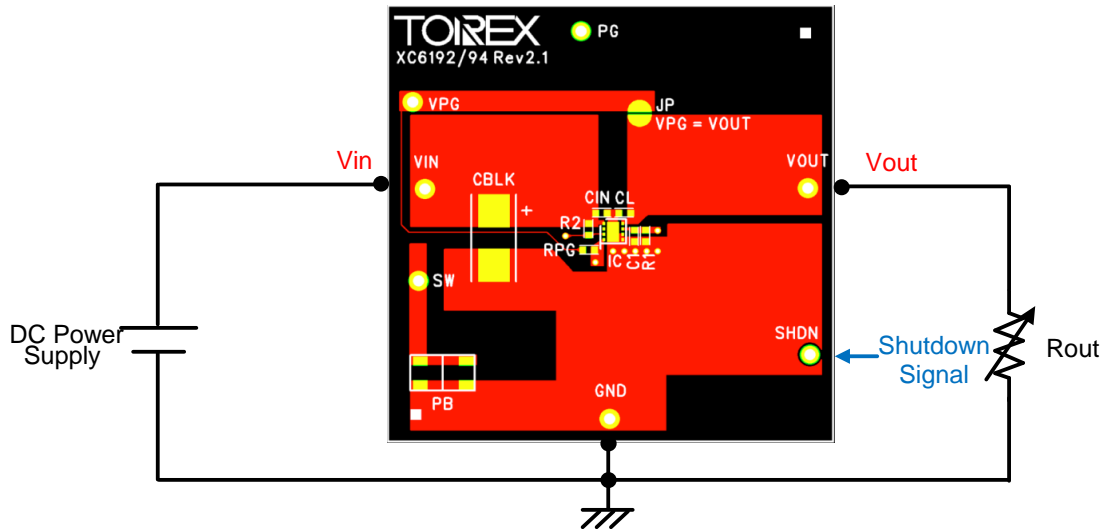
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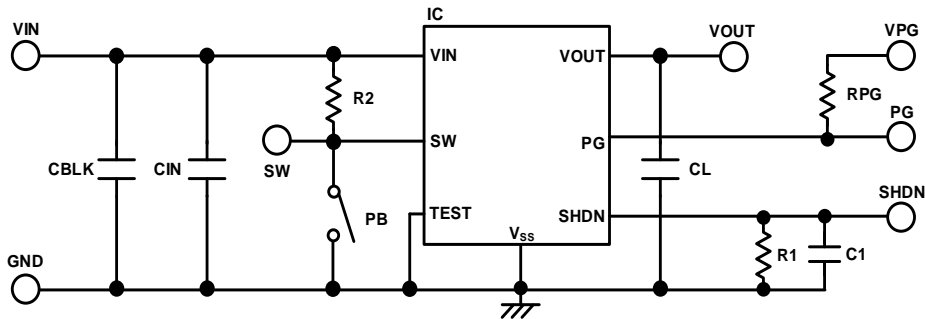
Quick Start Procedure



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Schematic



BOM

Required Circuit Component

Item	Value	Description	Size [mm]	Part Number	Manufacture
IC	-	Push Button Smart Load Switch	USP-8B06	XC6194AA05ER-G	TOREX
CIN	0.1uF	Ceramic cap., 50V	1005	CGA2B3X7R1H104H	Taiyo Yuden
CL	10uF	Ceramic cap., 10V	1005	GRM155R61106ME11D	Taiyo Yuden
R1	200kΩ	Resistor	1005	-	-
R2	200kΩ	Resistor	1005	-	-
RPG	-	-	-	-	-
C1	-	-	-	-	-
PB	-	SMT Tact Switch	3.2x4.6	434133025816	Würth Elektronik

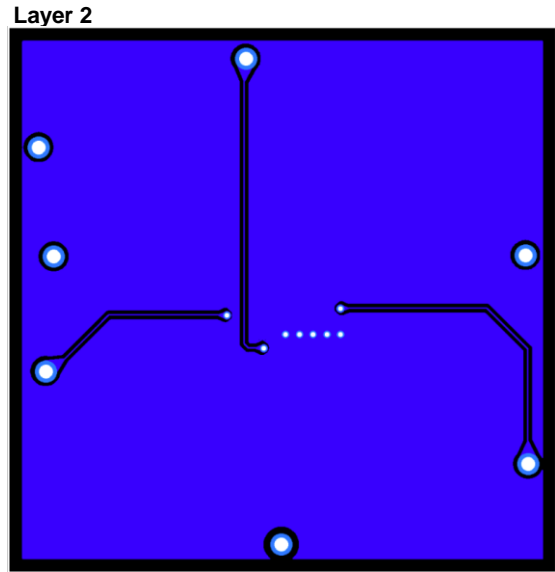
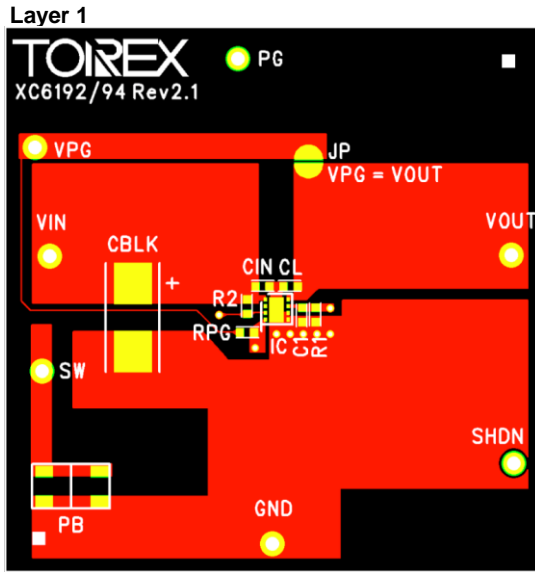
Additional Demo Board Circuit Components

Item	Value	Description	Size [mm]	Part Number	Manufacture
CBLK	10uF	Ceramic cap., 50V/10uF	3225	CGA6P3X7S1H106K	TDK

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PCB Layout

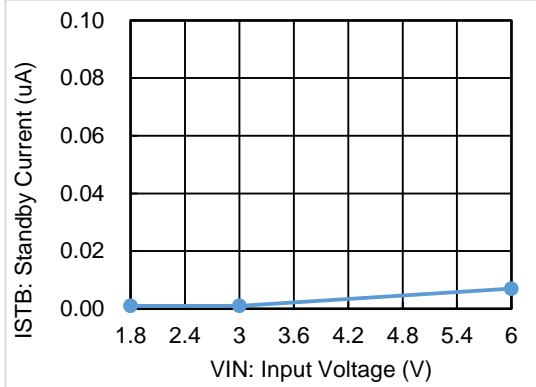


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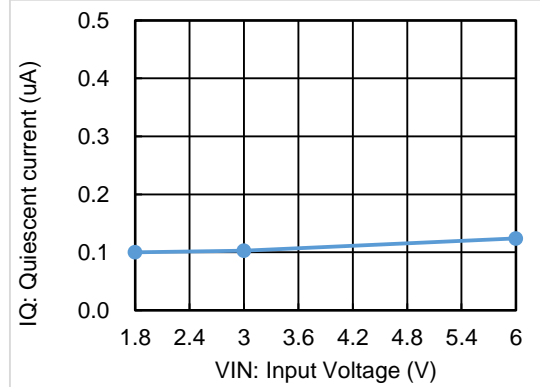
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Test Result

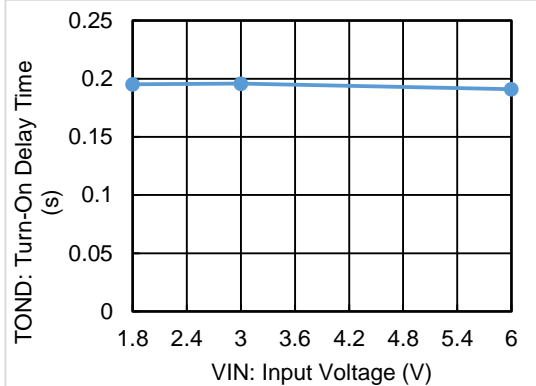
(1) Standby Current Ta=25°C
Turn-Off State, $V_{SW}=V_{IN}$, $V_{SHDN}=0V$



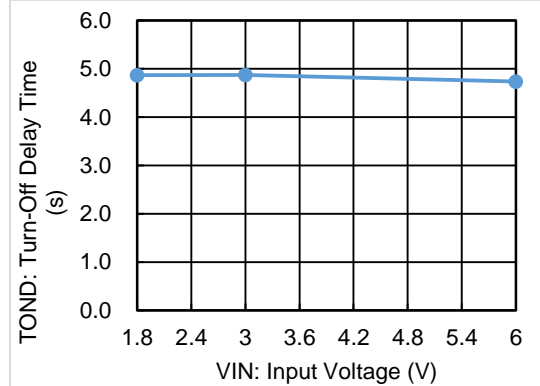
(2) Quiescent current Ta=25°C
Turn-On State, $V_{SW}=V_{IN}$, $V_{SHDN}=0V$



(3) Turn-On Delay Time Ta=25°C
 $V_{SW}=V_{IN} \rightarrow 0V$, $V_{SHDN}=0V$ (During "SW"="L" to VOUT="H".)



(4) Turn-Off Delay Time Ta=25°C
 $V_{SW}=V_{IN} \rightarrow 0V$, $V_{SHDN}=0V$ (During "SW"="L" to VOUT="L".)



(5) Inrush Current Ta=25°C
 $V_{IN}=6.0V$, $V_{SW}=V_{IN} \rightarrow 0V$, $V_{SHDN}=0V$



(6) Shutdown function Ta=25°C
 $V_{IN}=6.0V$, $V_{SW}=V_{IN}$, $V_{SHDN}=0V \rightarrow 1.2V$



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Test Result

(7) Inrush Current

