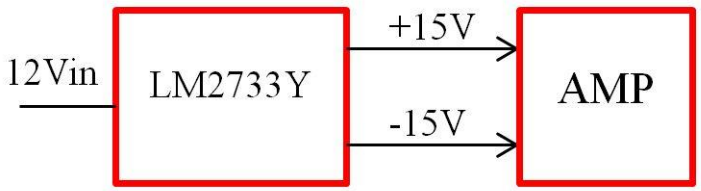
Test Report
For PMP10703
9/18/2015

1. Design Specifications

Vin Min.	**9VDC**
Vin Max.	**14VDC**
Vout1	**15VDC**
Iout1	**100mA Max**
Vout2	**-15VDC**
Iout2	**100mA Max**
Target Switching Frequency	**600kHz**

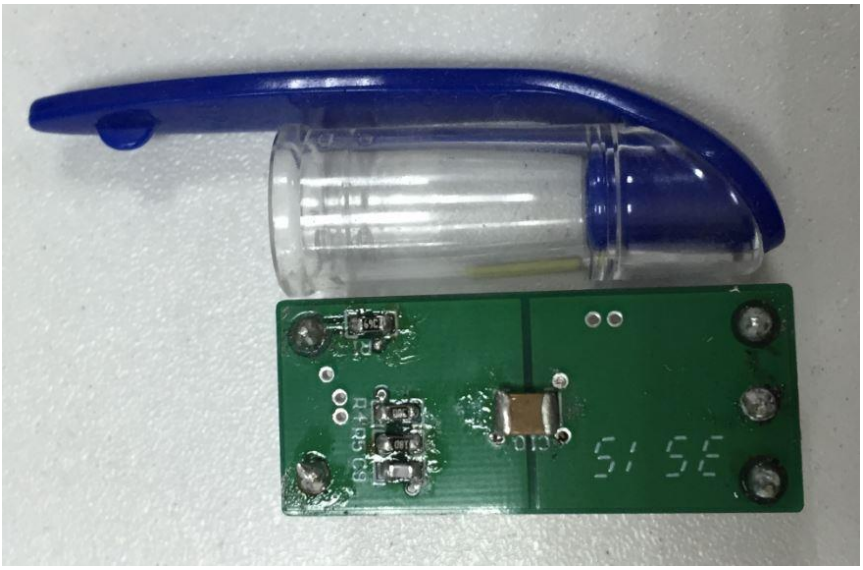
2. Circuit Description

PMP10703 is an isolated dual output flyback solution which accepts an input voltage of 9 to 14Vin and provides a +/-15V output to power the amplifier. With tiny size of LM2733 and primary control, the reference design's total solution size is very small (30.48*13.08mm) and could be used for amplifier supply in industry application. The block diagram is as below:



3. PMP10703 Board Photos

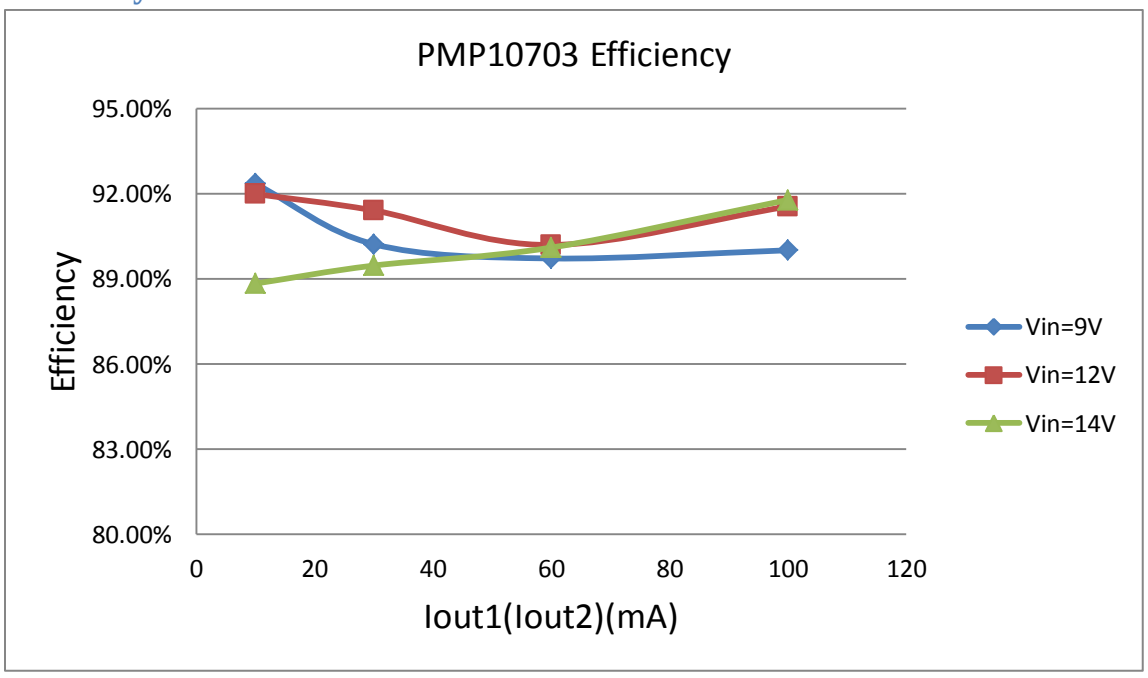
Board Photo (Top) (30.48mm*13.08mm)



Board Photo (Bottom) (30.48mm*13.08mm)

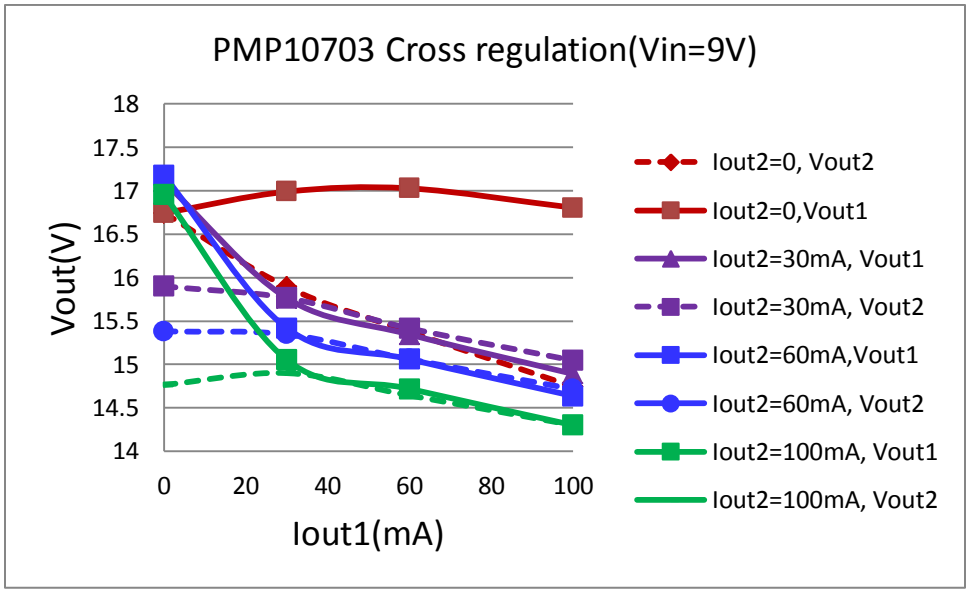
4. Efficiency and Regulation

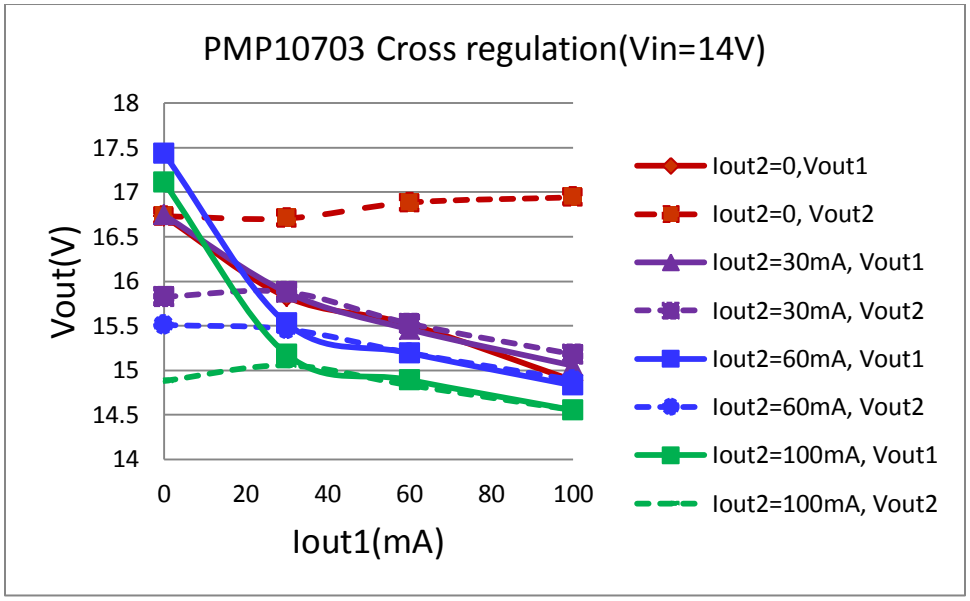
4.1 Efficiency Chart



4.2 Cross Regulation Chart

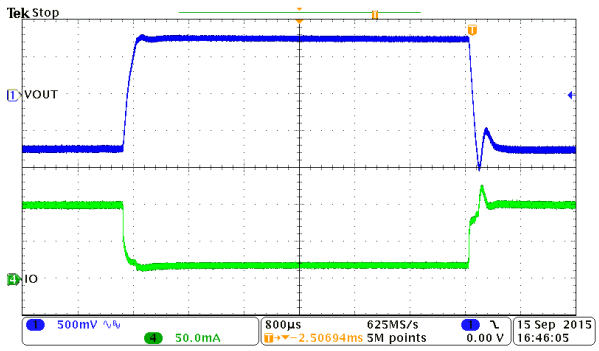
The cross regulation was tested by fixing channel 2's output current and sweeping channel 1's current from 0% to 100% load and record two channel's output. Solid line is output1 and dashed line is output2.



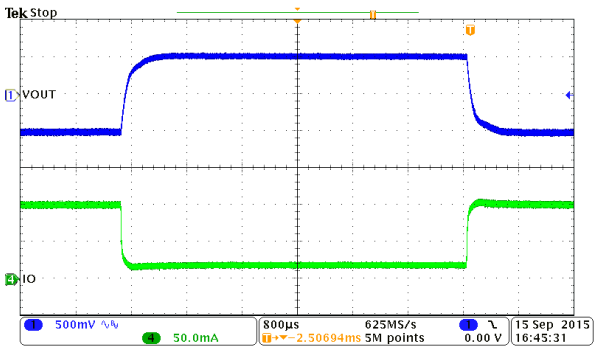


5 Waveforms

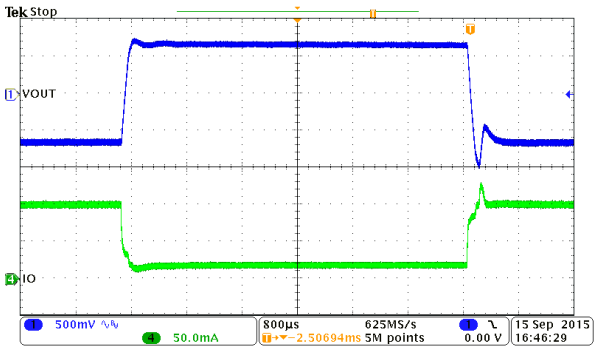
5.1 Load Transient Response (Iout1: 10mA to 100mA, 0.1A/us)



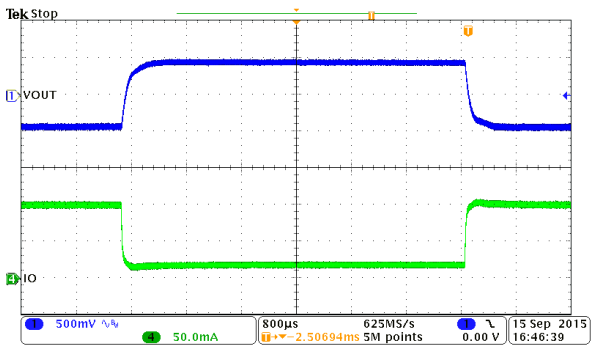
Vin=9.0V (Iout2=0mA)



Vin=9.0V (Iout2=100mA)

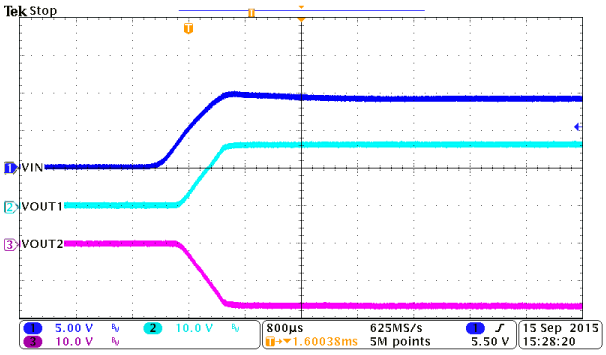


Vin=14.0V (Iout2=0mA)

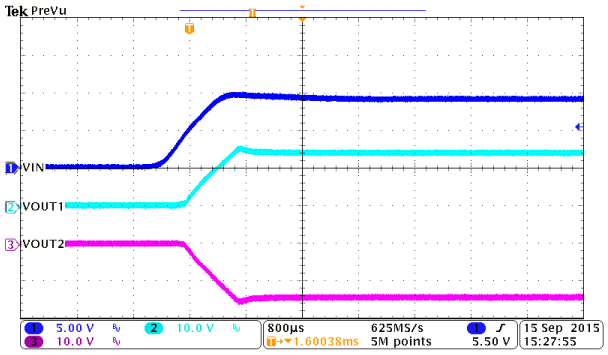


Vin=14.0V (Iout2=100mA)

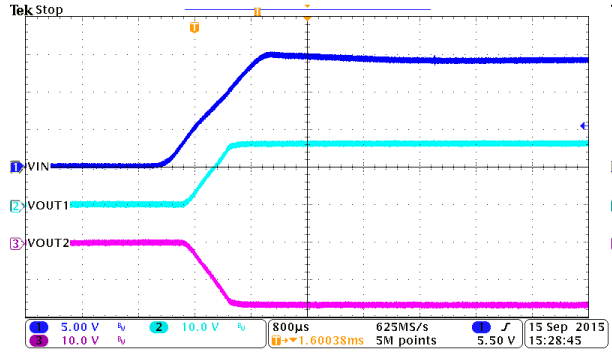
5.2 Startup



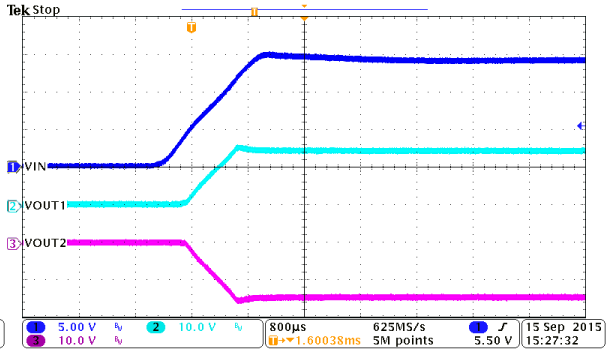
Vin=9.0V, Iout1=Iout2=0A



Vin=9.0V, Iout1=Iout2=100mA

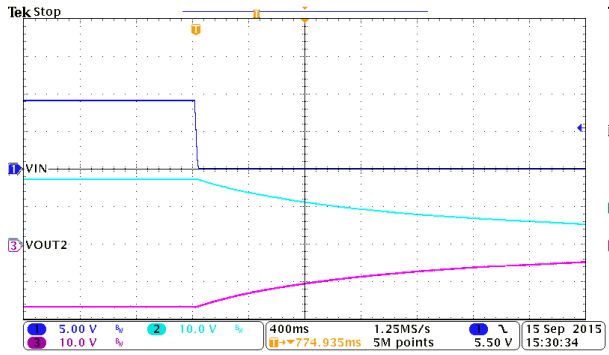


Vin=14.0V, Iout1=Iout2=0A

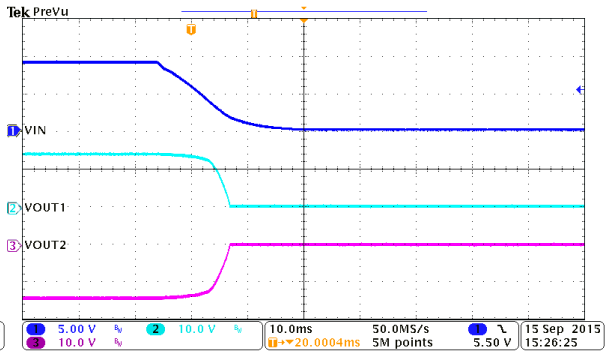


Vin=14.0V, Iout1=Iout2=100mA

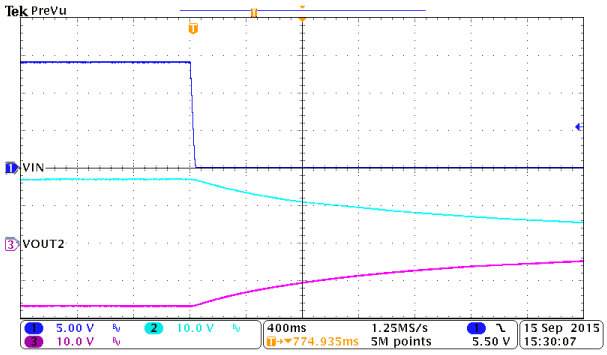
5.3 Shutdown



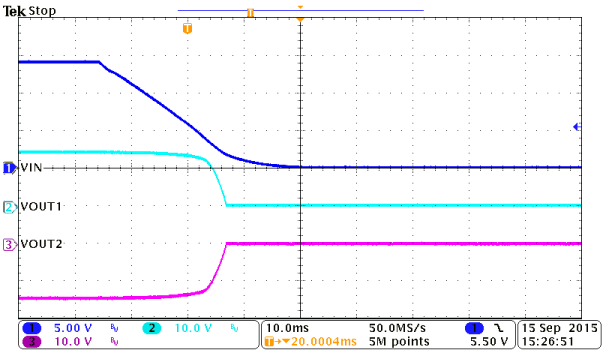
Vin=9.0V, Iout1=Iout2=0A



Vin=9.0V, Iout1=Iout2=100mA

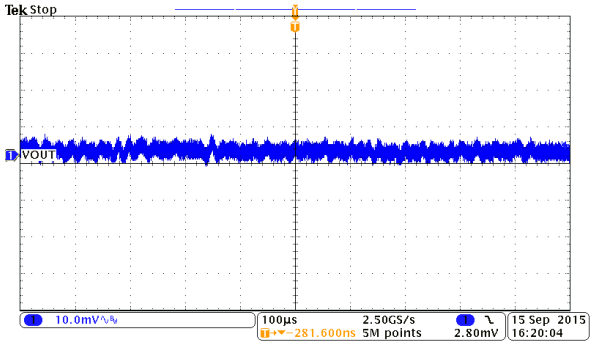


Vin=14.0V, Iout1=Iout2=0A

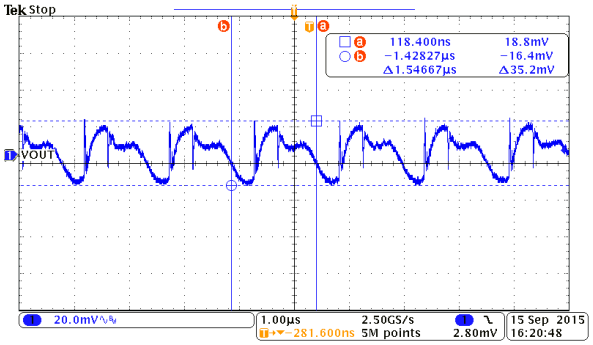


Vin=14.0V, Iout1=Iout2=100mA

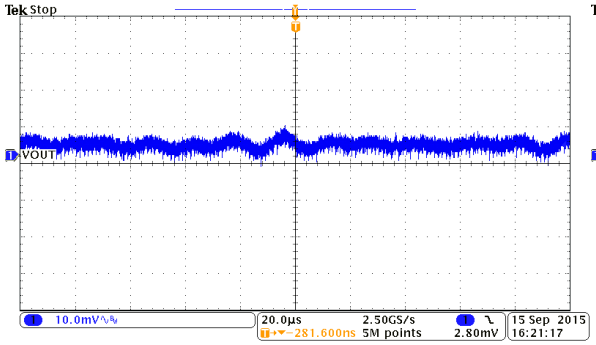
5.4 Ripple



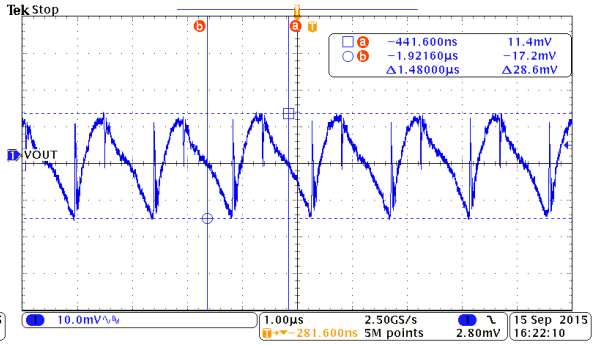
Vin=9.0V, Iout1=Iout2=0A



Vin=9.0V, Iout1=Iout2=100mA

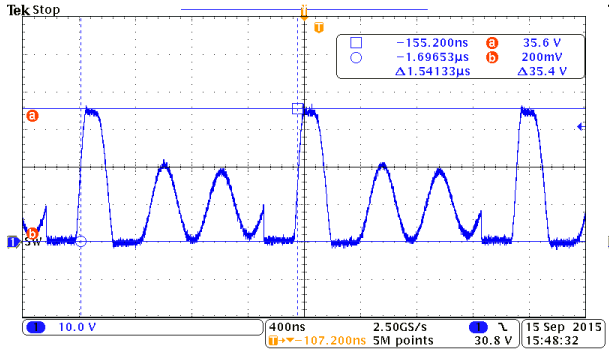


Vin=14.0V, Iout1=Iout2=0A

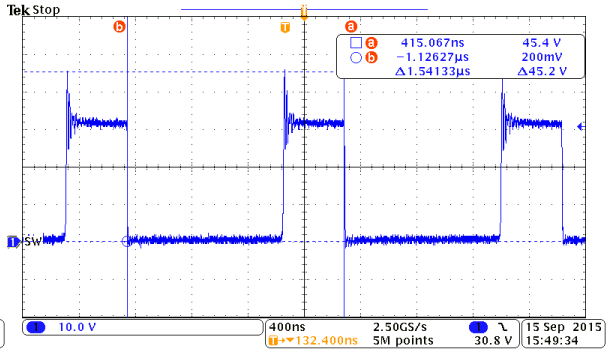


Vin=14.0V, Iout1=Iout2=100mA

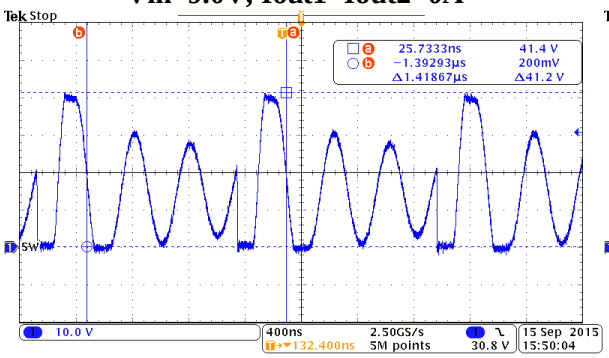
5.5 SW



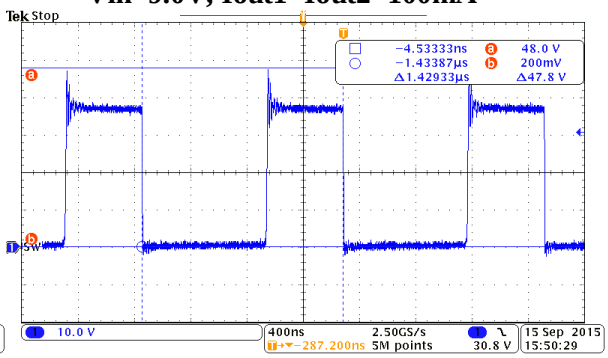
Vin=9.0V, Iout1=Iout2=0A



Vin=9.0V, Iout1=Iout2=100mA

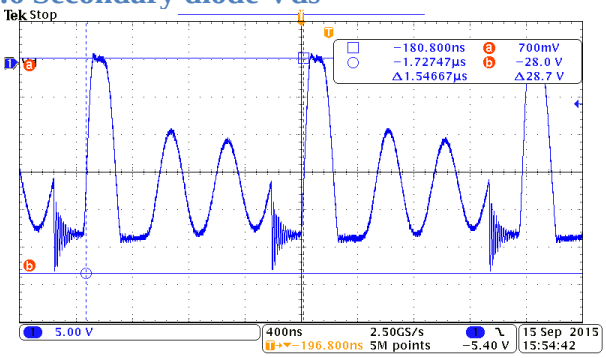


Vin=14.0V, Iout1=Iout2=0A

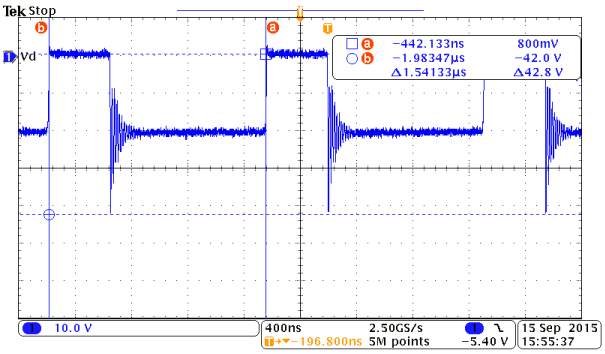


Vin=14.0V, Iout1=Iout2=100mA

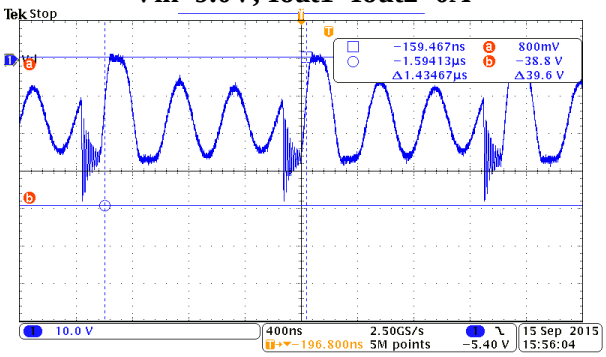
5.6 Secondary diode Vds



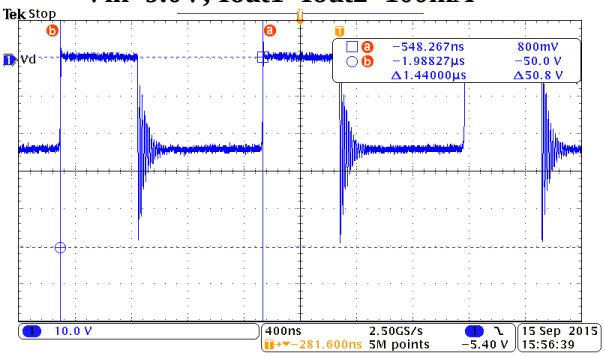
Vin=9.0V, Iout1=Iout2=0A



Vin=9.0V, Iout1=Iout2=100mA



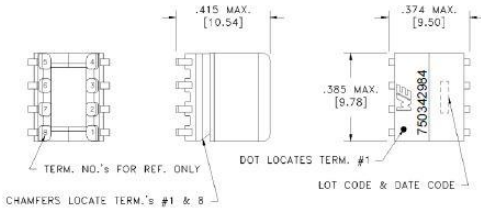
Vin=14.0V, Iout1=Iout2=0A

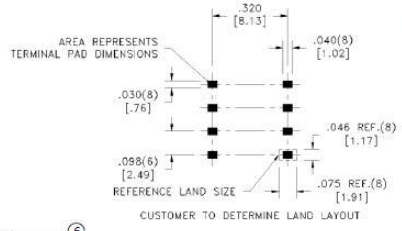


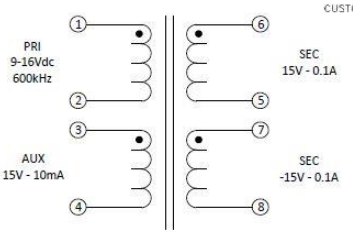
Vin=14.0V, Iout1=Iout2=100mA

6 Transformer Datasheet

CUSTOMER TERMINAL	RoHS	LEAD(Pb)–FREE
Sn 96%, Ag 4%	Yes	Yes







ELECTRICAL SPECIFICATIONS @ 25° C unless otherwise noted:

PARAMETER		TEST CONDITIONS	VALUE
D.C. RESISTANCE	1-2	@20ºC	0.110 ohms max.
D.C. RESISTANCE	3-4	@20ºC	0.164 ohms max.
D.C. RESISTANCE	6-5	@20ºC	0.088 ohms max.
D.C. RESISTANCE	7-8	@20ºC	0.088 ohms max.
INDUCTANCE	1-2	50kHz, 100mV, Ls	30.0µH ±10%
SATURATION CURRENT	1-2	20% rolloff from initial	1A .
LEAKAGE INDUCTANCE	1-2	tie(3+4+5+6+7+8),100kHz, 100mV, Ls	160nH typ., 300nH max.
DIELECTRIC	1-8	tie(2+3, 6+7), 1875VAC, 1 second	1500VAC, 1 minute
DIELECTRIC	1-core	tie(2+3), 625VAC, 1 second	500VAC, 1 minute
DIELECTRIC	8-core	tie(6+7), 625VAC, 1 second	500VAC, 1 minute
TURNS RATIO		(1-2):(3-4)	1.5:1, ±2%
TURNS RATIO		(1-2):(6-5)	1.5:1, ±2%
TURNS RATIO		(1-2):(7-8)	1.5:1, ±2%

GENERAL SPECIFICATIONS:

OPERATING TEMPERATURE RANGE: -40°C to +125°C including temp rise.
Designed to comply with the following requirements as defined by IEC60950-1, EN60950-1, UL60950-1/CSA60950-1 and AS/NZS60950.1:
- Functional insulation .

Wire insulation & RoHS status not affected by wire color. Wire insulation color may vary depending on availability.

DFM		Packaging Specifications	Tolerances unless otherwise specified:	DRAWING TITLE	PART NO.
DATE		Method: Tape & Reel	Angles: ±1° Decimals: ±.005 [.13]	TRANSFORMER	750342984
ENG	NWA	PKG-0410	Fractions: ±1/64 Footprint: ± .001 [.03]		
REV.	00	CONVENTION PLACEMENT	This drawing is dual dimensioned. Dimensions in brackets are in millimeters.		
DATE	2015-08-18	www.we-online.com/midcom			SPECIFICATION SHEET 1 OF 1

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265