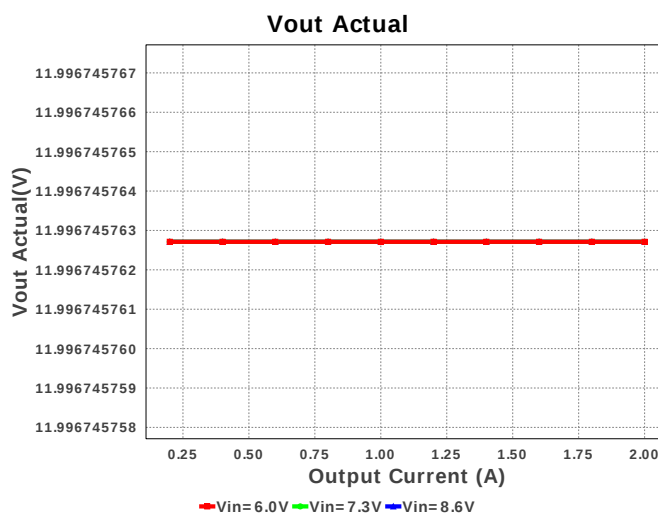
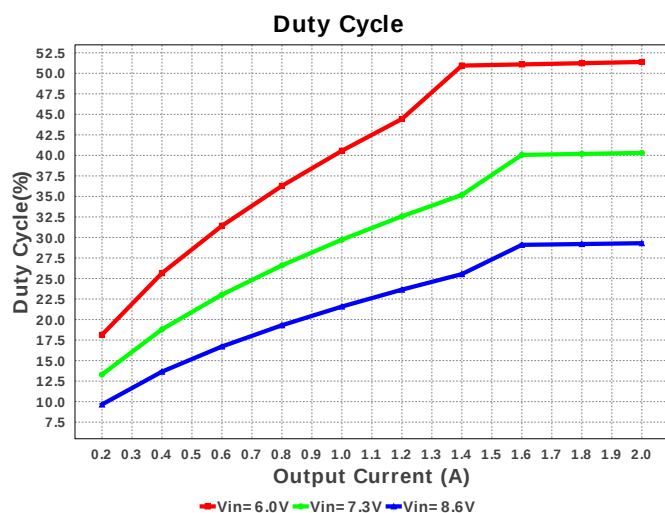
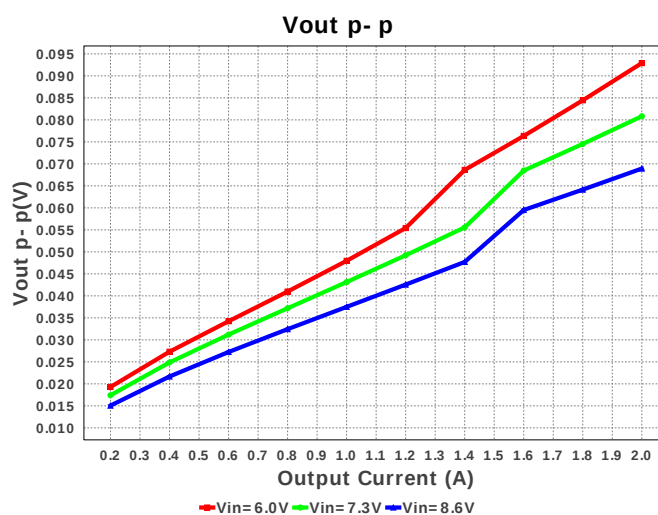
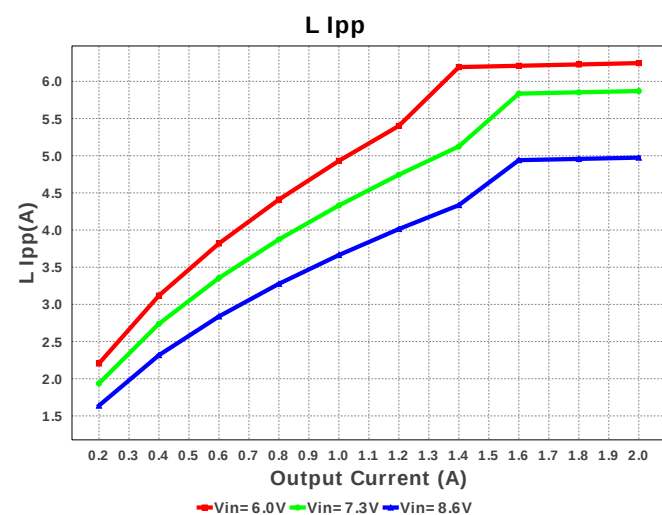
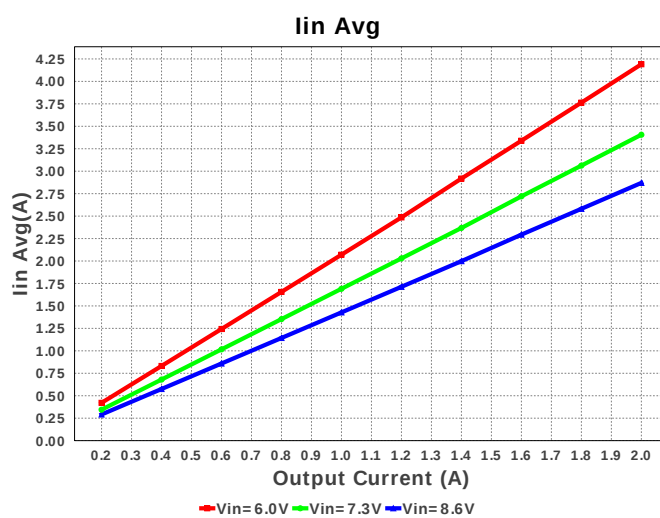
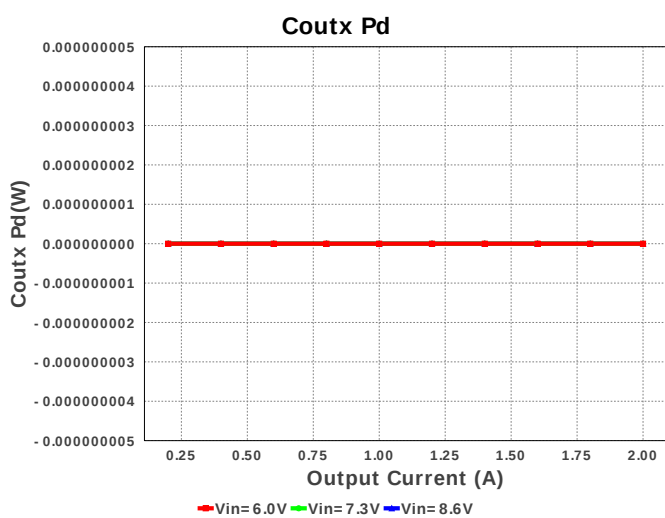
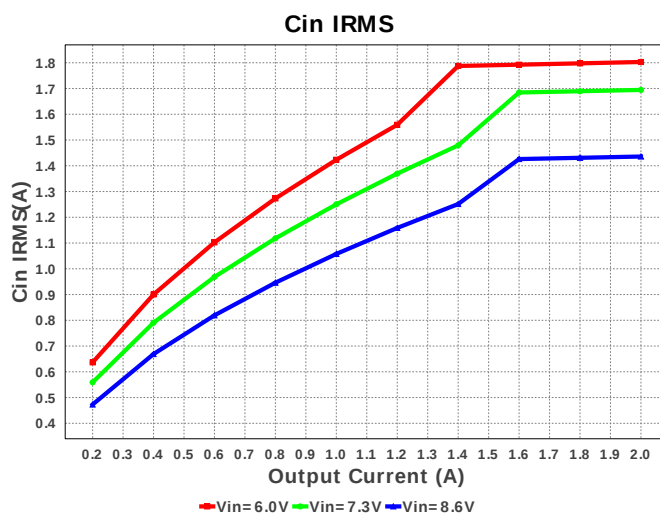
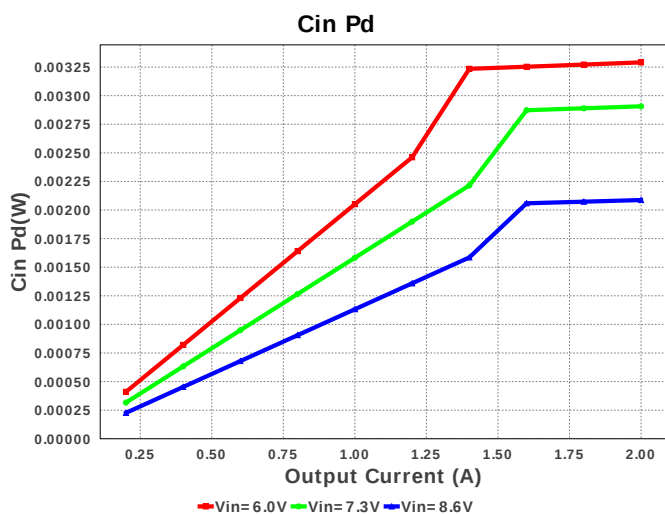
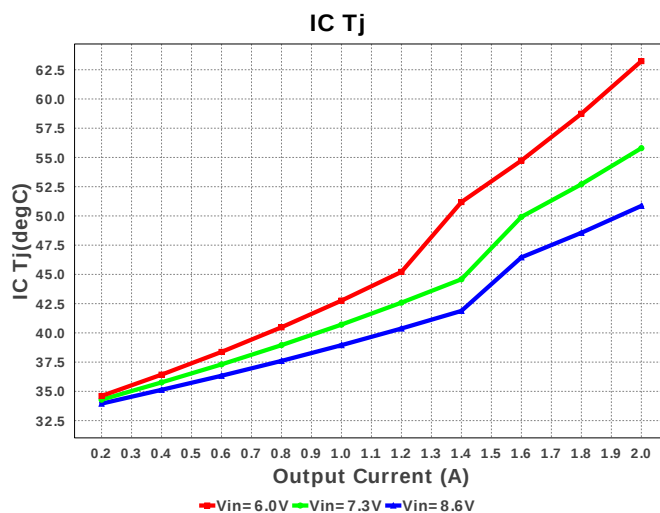
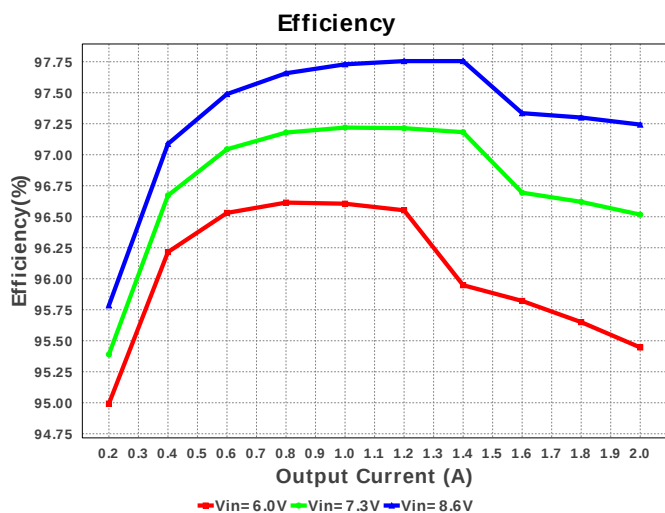


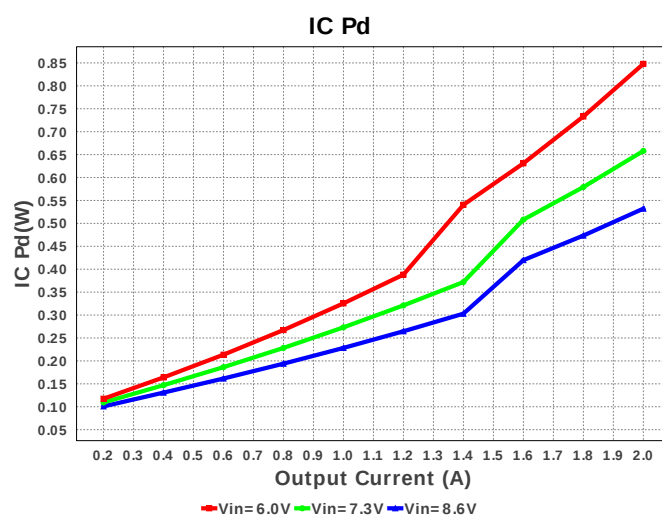
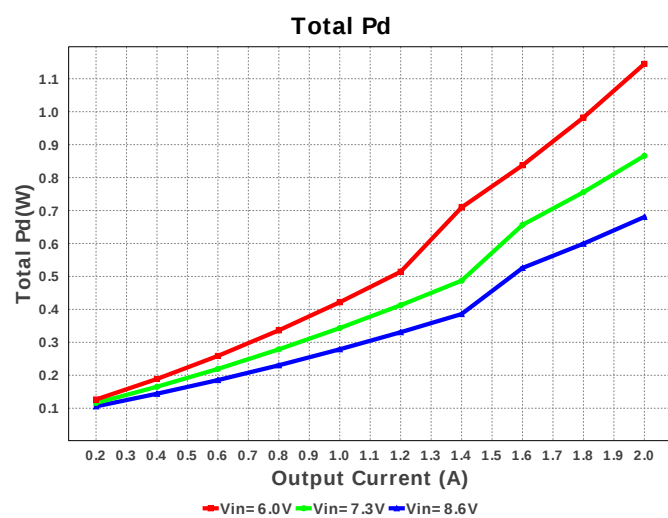
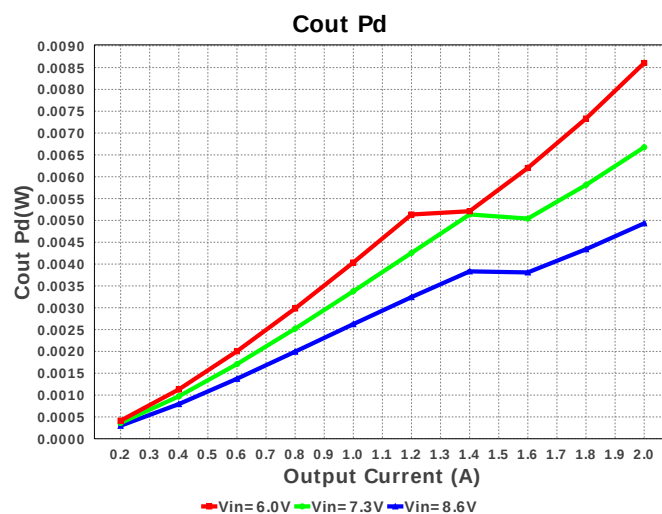
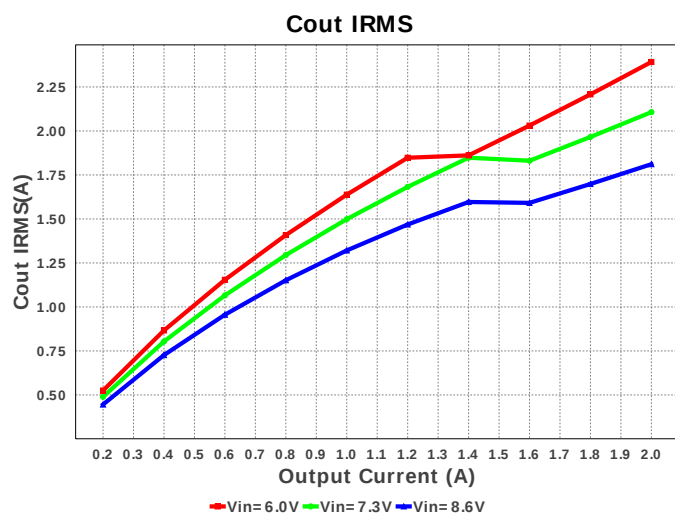
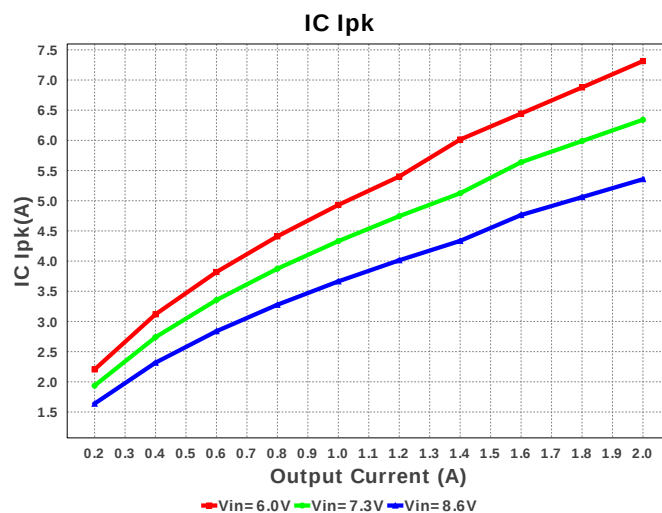
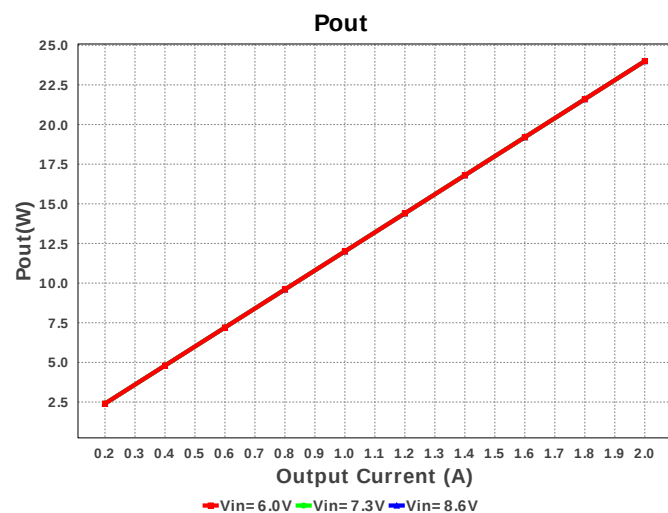


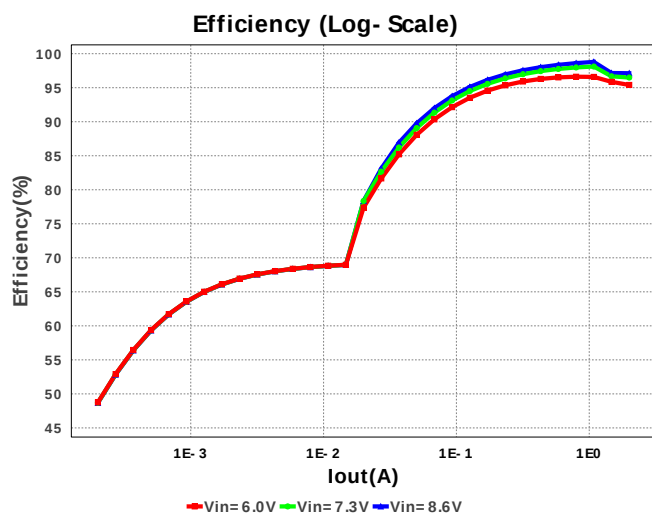
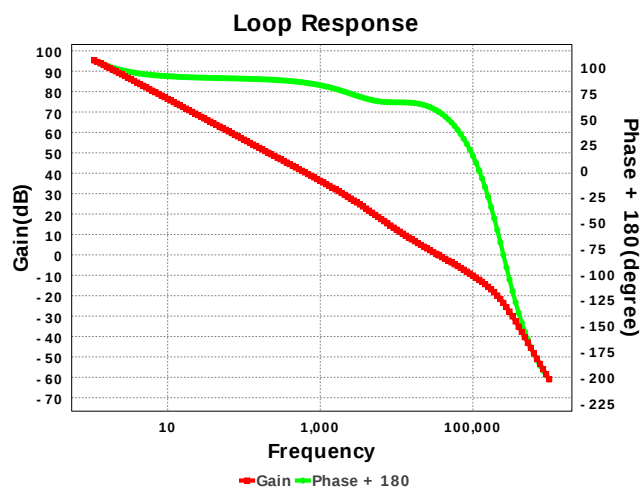
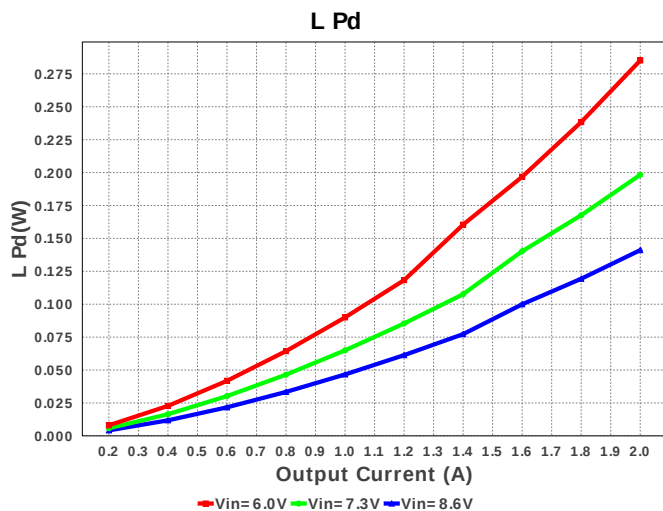
Device = TPS61089RNRR
Topology = Boost
Created = 8/2/16 8:26:42 AM
BOM Cost = \$3.79
BOM Count = 18
Total Pd = 1.15W

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
11.	Rfbt	Vishay-Dale	CRCW08051M05FKEA Series= CRCW..e3	Res= 1.05 MOhm Power= 125.0 mW Tolerance= 1.0%	1	\$0.01	0805 7 mm ²
12.	Rlim	Yageo America	RC1206FR-07120KL Series= ?	Res= 120.0 kOhm Power= 250.0 mW Tolerance= 1.0%	1	\$0.01	1206 11 mm ²
13.	Rt	Panasonic	ERJ-8ENF3093V Series= ERJ-8E	Res= 309.0 kOhm Power= 250.0 mW Tolerance= 1.0%	1	\$0.01	1206 11 mm ²
14.	U1	Texas Instruments	TPS61089RNRR	Switcher	1	\$1.80	RNR0011A 10 mm ²









Operating Values

#	Name	Value	Category	Description
1.	BOM Count	18		Total Design BOM count
2.	Total BOM	\$3.79		Total BOM Cost
3.	Cin IRMS	1.803 A	Current	Input capacitor RMS ripple current
4.	Cout IRMS	2.392 A	Current	Output capacitor RMS ripple current
5.	IC Ipk	7.314 A	Current	Peak switch current in IC
6.	Iin Avg	4.191 A	Current	Average input current
7.	L Ipp	6.246 A	Current	Peak-to-peak inductor ripple current
8.	FootPrint	217.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	493.583 kHz	General	Switching frequency
10.	Pout	24.0 W	General	Total output power
11.	ICThetaJA Effective	39.2 degC/W	Op_Point	Effective IC Junction-to-Ambient Thermal Resistance
12.	Low Freq Gain	96.737 dB	Op_Point	Gain at 10Hz
13.	Vout Actual	11.997 V	Op_Point	Vout Actual calculated based on selected voltage divider resistors
14.	Cross Freq	34.911 kHz	Op_point	Bode plot crossover frequency
15.	Duty Cycle	51.38 %	Op_point	Duty cycle
16.	Efficiency	95.446 %	Op_point	Steady state efficiency
17.	Gain Marg	-12.173 dB	Op_point	Bode Plot Gain Margin
18.	IC Tj	63.238 degC	Op_point	IC junction temperature
19.	IOUT_OP	2.0 A	Op_point	Iout operating point
20.	Phase Marg	56.483 deg	Op_point	Bode Plot Phase Margin
21.	VIN_OP	6.0 V	Op_point	Vin operating point
22.	Vout p-p	92.906 mV	Op_point	Peak-to-peak output ripple voltage
23.	Cin Pd	3.291 mW	Power	Input capacitor power dissipation
24.	Cout Pd	8.605 mW	Power	Output capacitor power dissipation
25.	Coutx Pd	0.0 W	Power	Output capacitor_x power loss
26.	IC Pd	847.92 mW	Power	IC power dissipation
27.	L Pd	285.155 mW	Power	Inductor power dissipation
28.	Total Pd	1.145 W	Power	Total Power Dissipation
29.	Vout Tolerance	4.462 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	2.0	Maximum Output Current
2.	VinMax	8.6	Maximum input voltage
3.	VinMin	6.0	Minimum input voltage
4.	Vout	12.0	Output Voltage
5.	base_pn	TPS61089	Base Product Number
6.	source	DC	Input Source Type
7.	Ta	30.0	Ambient temperature

Design Assistance

1. **TPS61089** Product Folder : <http://www.ti.com/product/TPS61089> : contains the data sheet and other resources.

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