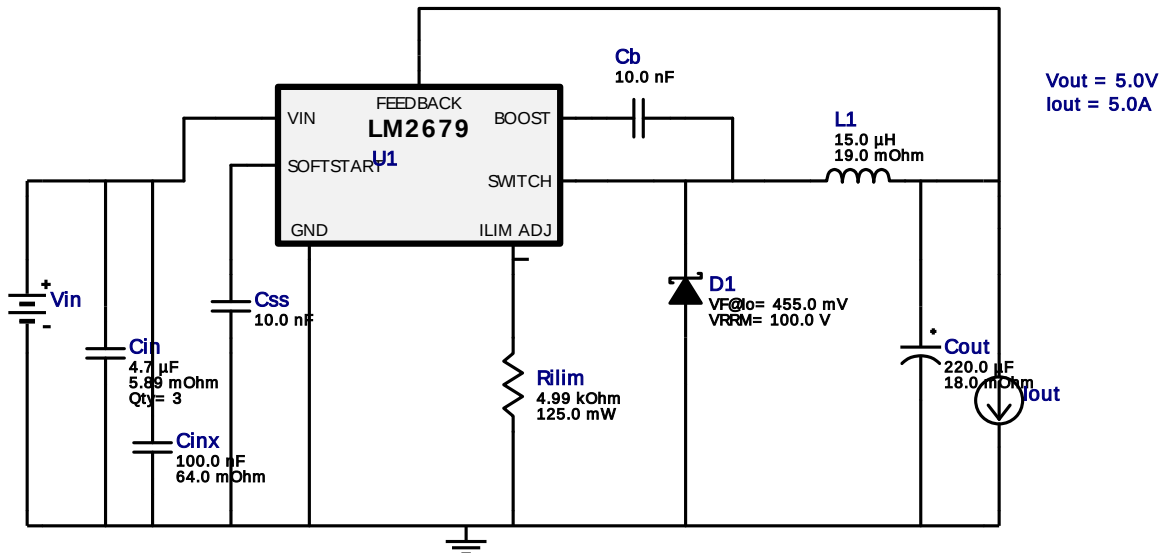
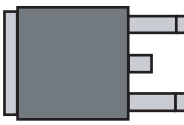


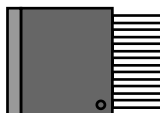
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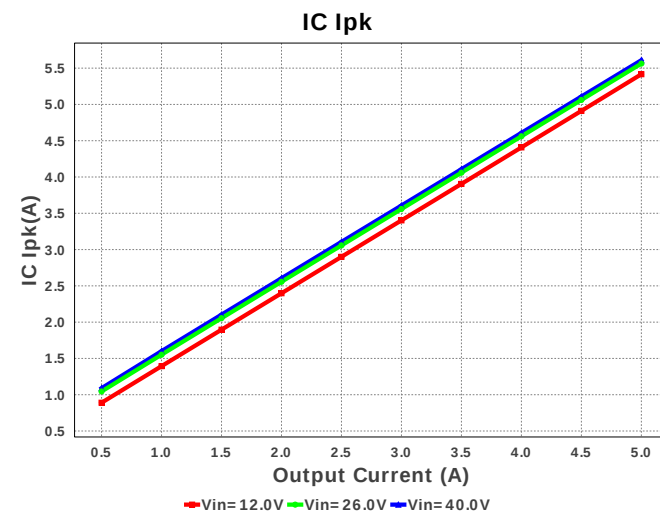
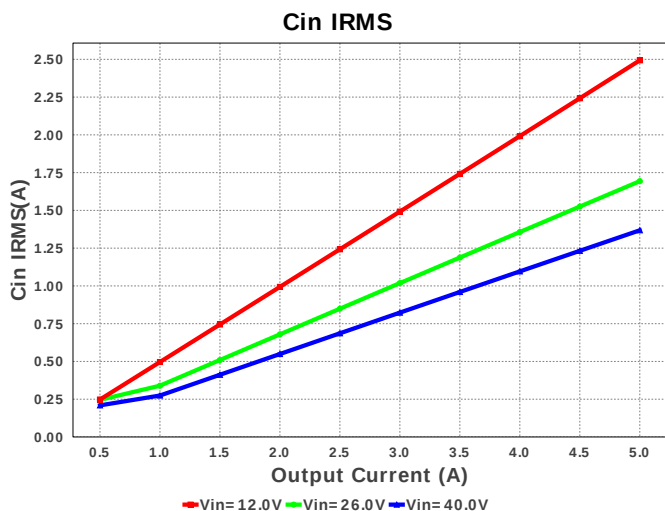
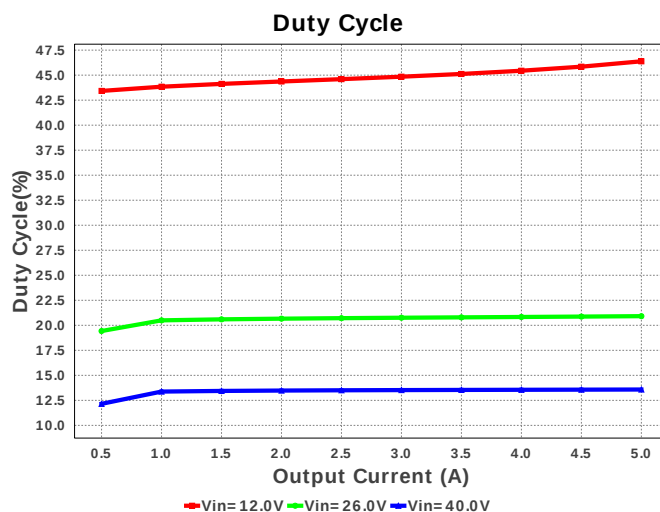
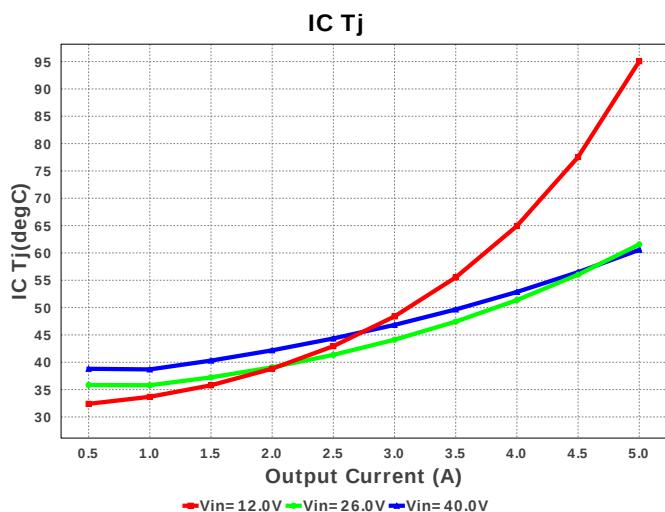
Design : 4058737/189 LM2679SX-5.0/NOPB
LM2679SX-5.0/NOPB 12.0V-40.0V to 5.00V @ 5.0A

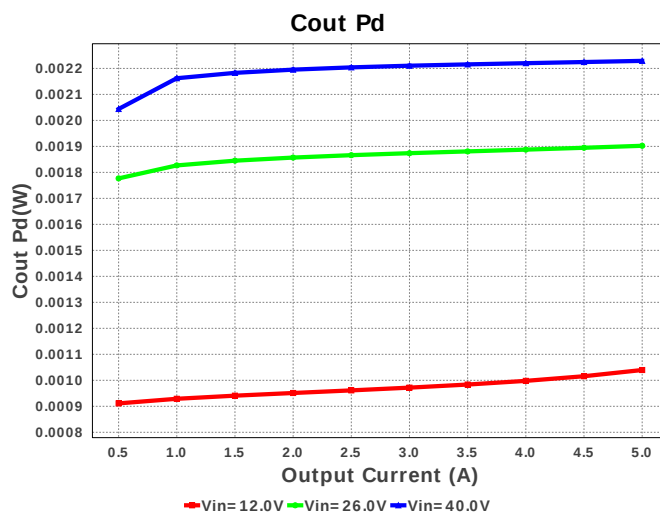
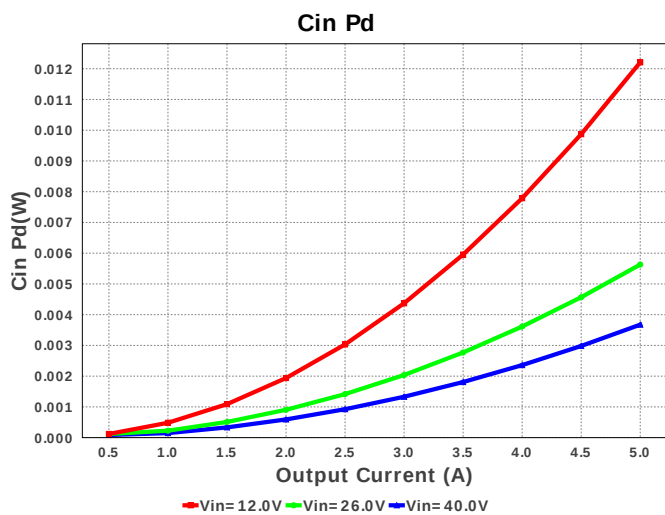
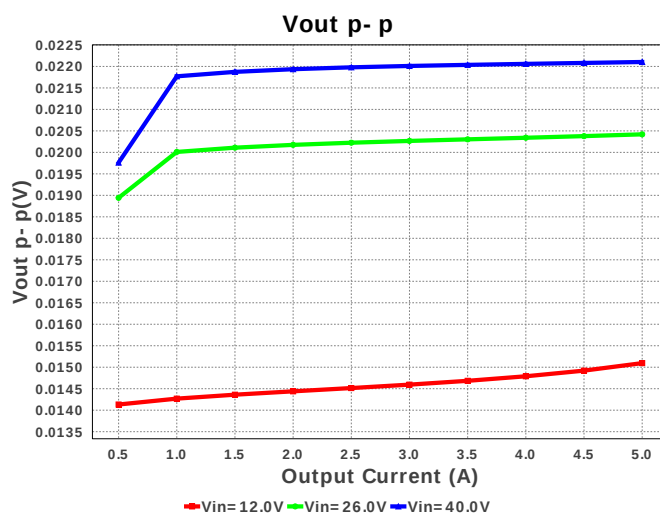
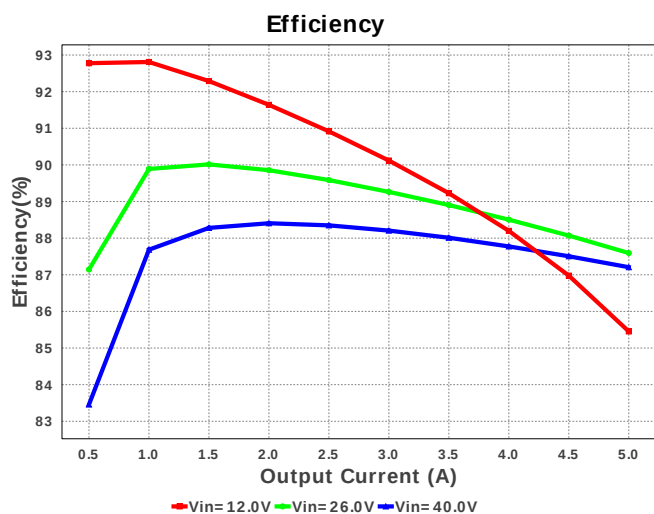
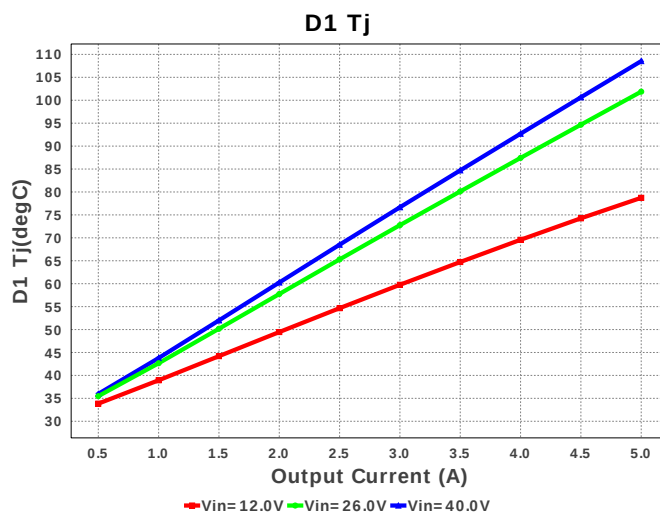
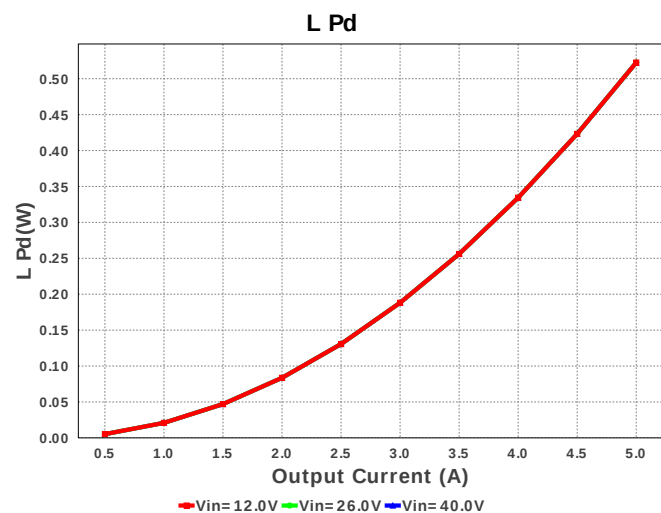


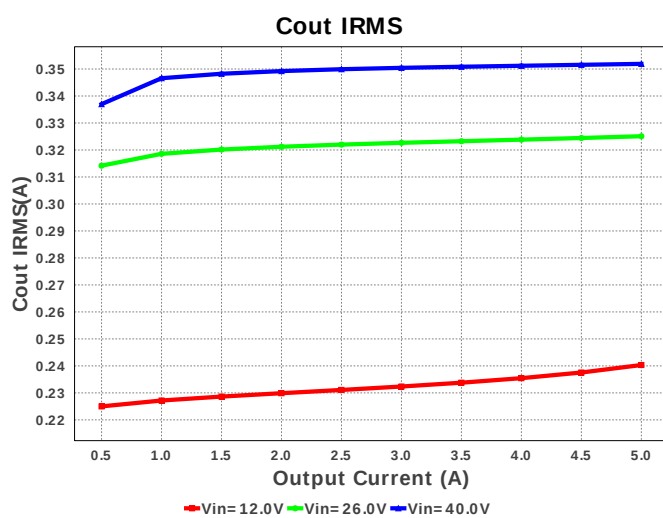
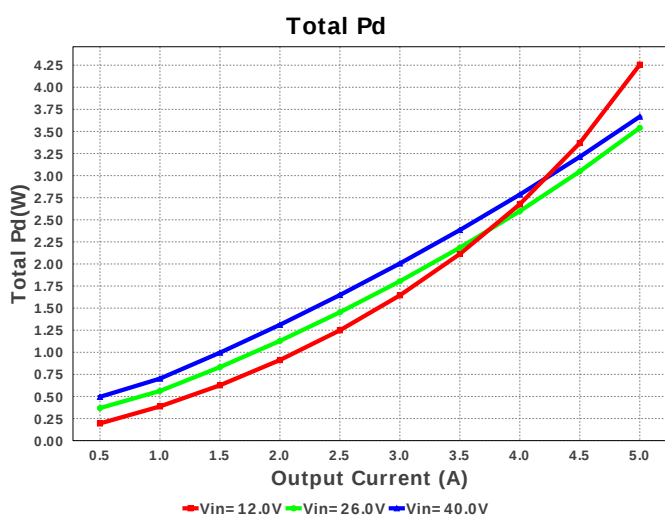
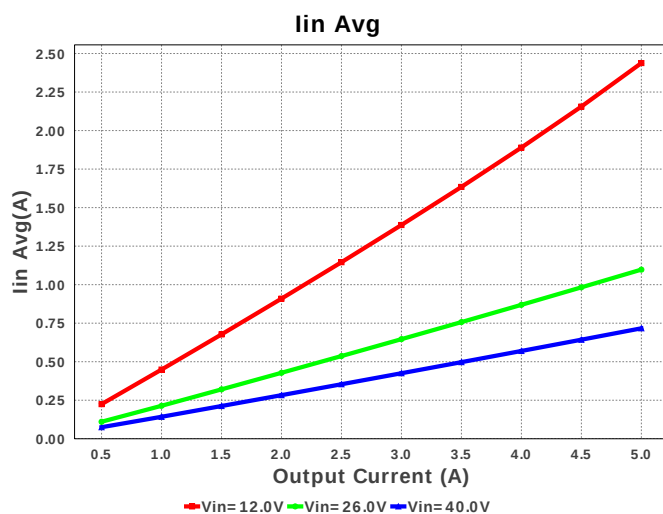
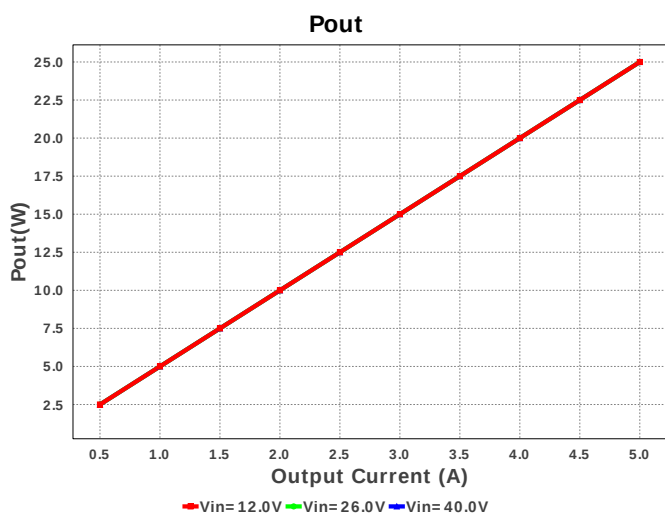
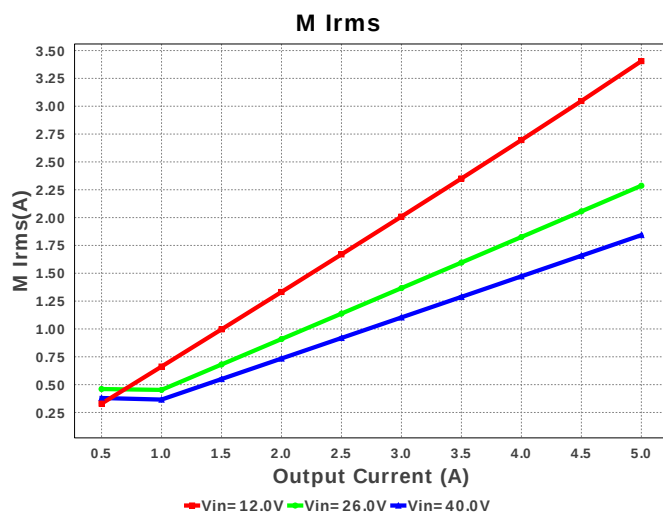
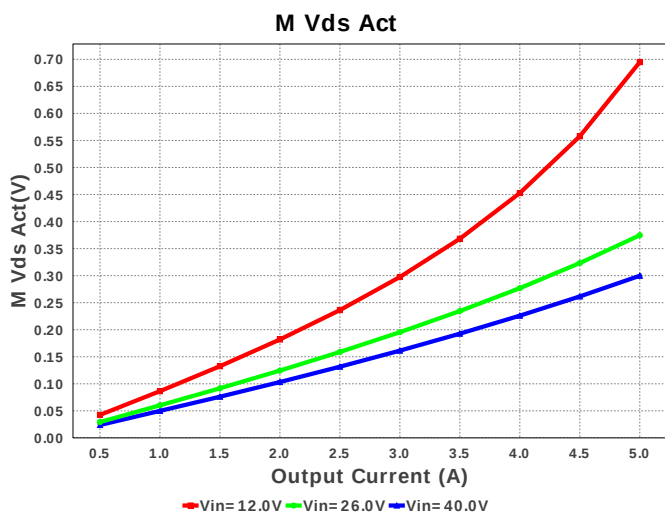
Electrical BOM

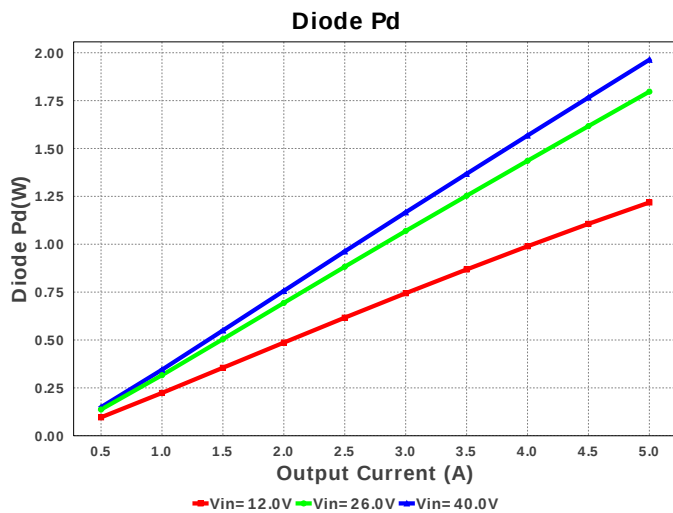
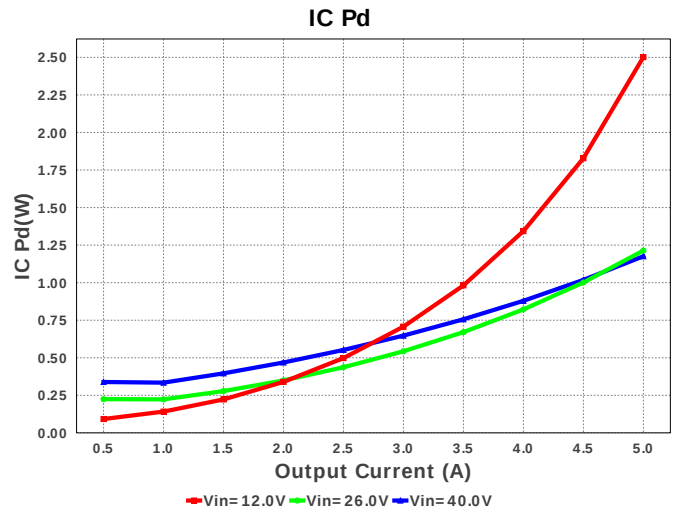
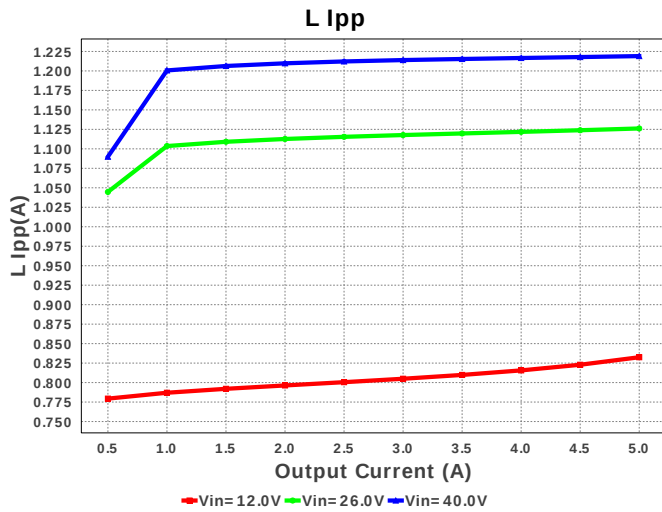
#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
1.	Cb	MuRata	GRM216R71H103KA01D Series= X7R	Cap= 10.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7 mm ²
2.	Cin	TDK	C3225X7S2A475M200AB Series= X7S	Cap= 4.7 uF ESR= 5.89 mOhm VDC= 100.0 V IRMS= 6.7739 A	3	\$0.42	 1210 15 mm ²
3.	Cinx	Kemet	C0805C104K5RACTU Series= X7R	Cap= 100.0 nF ESR= 64.0 mOhm VDC= 50.0 V IRMS= 1.64 A	1	\$0.01	 0805 7 mm ²
4.	Cout	Kemet	T520D227M010ATE018 Series= T520	Cap= 220.0 uF ESR= 18.0 mOhm VDC= 10.0 V IRMS= 3.5 A	1	\$0.76	 7343-31 59 mm ²
5.	Css	MuRata	GRM216R71H103KA01D Series= X7R	Cap= 10.0 nF VDC= 50.0 V IRMS= 0.0 A	1	\$0.01	 0805 7 mm ²
6.	D1	STMicroelectronics	STPS20M100SG-TR	VF@Io= 455.0 mV VRRM= 100.0 V	1	\$1.33	 DDPAK 210 mm ²

#	Name	Manufacturer	Part Number	Properties	Qty	Price	Footprint
7.	L1	Coilcraft	MSS1210-153MEB	L= 15.0 μ H DCR= 19.0 mOhm	1	\$0.81	 MSS1210 204 mm ²
8.	Rilim	Panasonic	ERJ-6ENF4991V Series= ERJ-6E	Res= 4.99 kOhm Power= 125.0 mW Tolerance= 1.0%	1	NA	 0805 7 mm ²
9.	U1	Texas Instruments	LM2679SX-5.0/NOPB	Switcher	1	\$2.25	 TS7B 199 mm ²









Operating Values

#	Name	Value	Category	Description
1.	Cin IRMS	1.368 A	Current	Input capacitor RMS ripple current
2.	Cout IRMS	351.905 mA	Current	Output capacitor RMS ripple current
3.	IC Ipk	5.61 A	Current	Peak switch current in IC
4.	Iin Avg	716.69 mA	Current	Average input current
5.	L Ipp	1.219 A	Current	Peak-to-peak inductor ripple current
6.	M Irms	1.843 A	Current	MOSFET RMS current
7.	BOM Count	11	General	Total Design BOM count
8.	FootPrint	743.0 mm ²	General	Total Foot Print Area of BOM components
9.	Frequency	260.0 kHz	General	Switching frequency
10.	IC Tolerance	100.0 mV	General	IC Feedback Tolerance
11.	M Vds Act	299.791 mV	General	Voltage drop across the MosFET
12.	Pout	25.0 W	General	Total output power
13.	Total BOM	\$0.0	General	Total BOM Cost
14.	D1 Tj	108.537 degC	Op_Point	D1 junction temperature
15.	Vout OP	5.0 V	Op_Point	Operational Output Voltage
16.	Cross Freq	24.923 kHz	Op_point	Bode plot crossover frequency
17.	Duty Cycle	13.584 %	Op_point	Duty cycle
18.	Efficiency	87.207 %	Op_point	Steady state efficiency
19.	IC Tj	60.57 degC	Op_point	IC junction temperature
20.	ICThetaJA	26.0 degC/W	Op_point	IC junction-to-ambient thermal resistance
21.	IOUT_OP	5.0 A	Op_point	Iout operating point
22.	Phase Marg	69.313 deg	Op_point	Bode Plot Phase Margin
23.	VIN_OP	40.0 V	Op_point	Vin operating point
24.	Vout p-p	22.104 mV	Op_point	Peak-to-peak output ripple voltage
25.	Cin Pd	3.675 mW	Power	Input capacitor power dissipation
26.	Cout Pd	2.229 mW	Power	Output capacitor power dissipation
27.	Diode Pd	1.963 W	Power	Diode power dissipation
28.	IC Pd	1.176 W	Power	IC power dissipation
29.	L Pd	522.5 mW	Power	Inductor power dissipation
30.	Total Pd	3.667 W	Power	Total Power Dissipation

#	Name	Value	Category	Description
31.	Vout Tolerance	2.0 %		Vout Tolerance based on IC Tolerance (no load) and voltage divider resistors if applicable

Design Inputs

#	Name	Value	Description
1.	Iout	5.0	Maximum Output Current
2.	VinMax	40.0	Maximum input voltage
3.	VinMin	12.0	Minimum input voltage
4.	Vout	5.0	Output Voltage
5.	base_pn	LM2679	Texas Instruments Base Part Number
6.	source	DC	Input Source Type
7.	ta	30.0	Ambient temperature

Design Assistance

1. Warning! With certain softstart capacitor values and operating conditions, the LM267X can exhibit an overshoot on the output voltage during turn on. Especially when starting up into no load or low load, the softstart function may not be effective in preventing a larger voltage overshoot on the output. With larger loads or lower input voltages during startup this effect is minimized. In particular, avoid using softstart capacitors between 0.033uF and 1uF.

2. LM2679 Product Folder : <http://www.ti.com/product/LM2679> : contains the data sheet and other resources.

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