

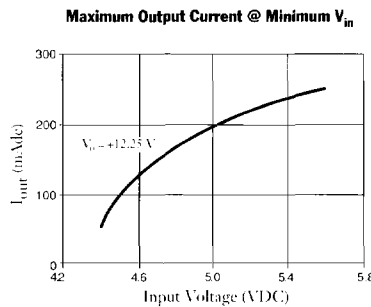
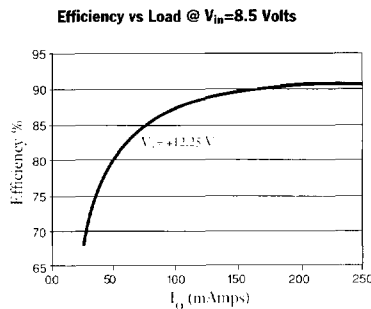
88SR1

5 TO 12 VOLT/3 WATT STEP-UP INTEGRATED SWITCHING REGULATOR

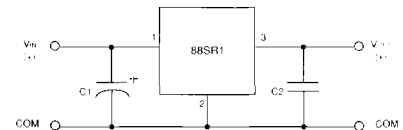
- Wide Input Voltage Range
+5 to +11 Volts
- High Efficiency > 80%
- Self-Contained Inductor
- Internal Over-Temperature Protection
- 1.1 MHz Switching Frequency

The Power Trends' 88SR112yD is a 3-terminal Integrated Switching Regulator (ISR) designed for use on PC boards wherever regulated +12 volts is required with up to 3 watts of output power. It is ideal for applications using a 7.2 volt battery as a main power source. This ISR has a maximum output current of 100 mAmps at an input voltage of 4.5 volts and 250 mAmps at an input voltage of 5.6 volts. The output voltage is laser trimmed, and it has excellent line and load regulation.

Performance Data



Standard Application



C_1 = Optional electrolytic (10 μ F)
 C_2 = Optional ceramic (1-5 μ F)

Specifications

Characteristics ($T_c=25^\circ\text{C}$ unless noted)	Symbols	Conditions	88SR112(Y)D SERIES			Units
			Min	Typ	Max	
Output Current	I_o	Over V_{in} range	50	—	250	mAmps
Minimum Input Voltage	Min V_{in}	$I_o=100$ mAmp	—	4.5	4.8	VDC
		$I_o=150$ mAmp	—	4.7	5.0	VDC
		$I_o=250$ mAmp	—	5.6	6.0	VDC
Maximum Input Voltage	Max V_{in}	Over I_o range	—	—	11.0	VDC
Static Voltage Tolerance	ΔV_o	Over V_{in} range $T_c=-40^\circ\text{C}$ to shutdown	—	± 1.0	± 2.0	% V_o
Line Regulation	Reg _{line}	Over V_{in} range	—	—	± 0.6	% V_o
Load Regulation	Reg _{load}	$50 \leq I_o \leq 250$ mAmp	—	—	± 1.0	% V_o
Ripple/Noise	V_n	$V_{in}=+5V$, $I_o=100$ mAmp	—	30	—	mV _{pp}
Transient Response	t_r	0.1A to 0.2A step, $V_{in}=8V$, V_o over/undershoot	—	200	—	μ Sec
			—	200	—	mV
Efficiency	η	$V_{in}=7.0V$, $I_o=200$ mAmp	—	87	—	%
Switching Frequency	f_o	Over V_{in} and I_o ranges	1.0	1.1	1.2	MHz
Operating Temperature	T_a	Over V_{in} and I_o ranges	-40	—	+60	$^\circ\text{C}$
Storage Temperature	T_s	—	-40	—	+125	$^\circ\text{C}$
Mechanical Shock	Per Mil-STD-883C, Method 2002.3 Condition C, soldered in a PC board		—	—	50	G's
Mechanical Vibration	Per Mil-STD-883D, Method 2007.2 Condition A, 20-2000 Hz		—	10	—	G's
Weight	—	—	—	0.25	—	Ounces
			—	7.0	—	Grams
Relative Humidity	—	Non-condensing	0	—	95	%

Ordering Information

3W Step-up Integrated
Switching Regulator

88SR1 **XX** **Y** D

Output Voltage
12 = 12.25 Volts

Package Style A

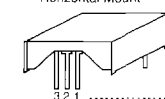
H = Horizontal
Mount

(For dimensions, see
page 61.)

Pin-Out Information

Pin No.	Function
1	Input
2	Common
3	Output

Horizontal Mount



Suggested board layout
Component-side view