

Multi-Phase SMD Coupled Inductor

Designed for Advanced Voltage Regulator Modules

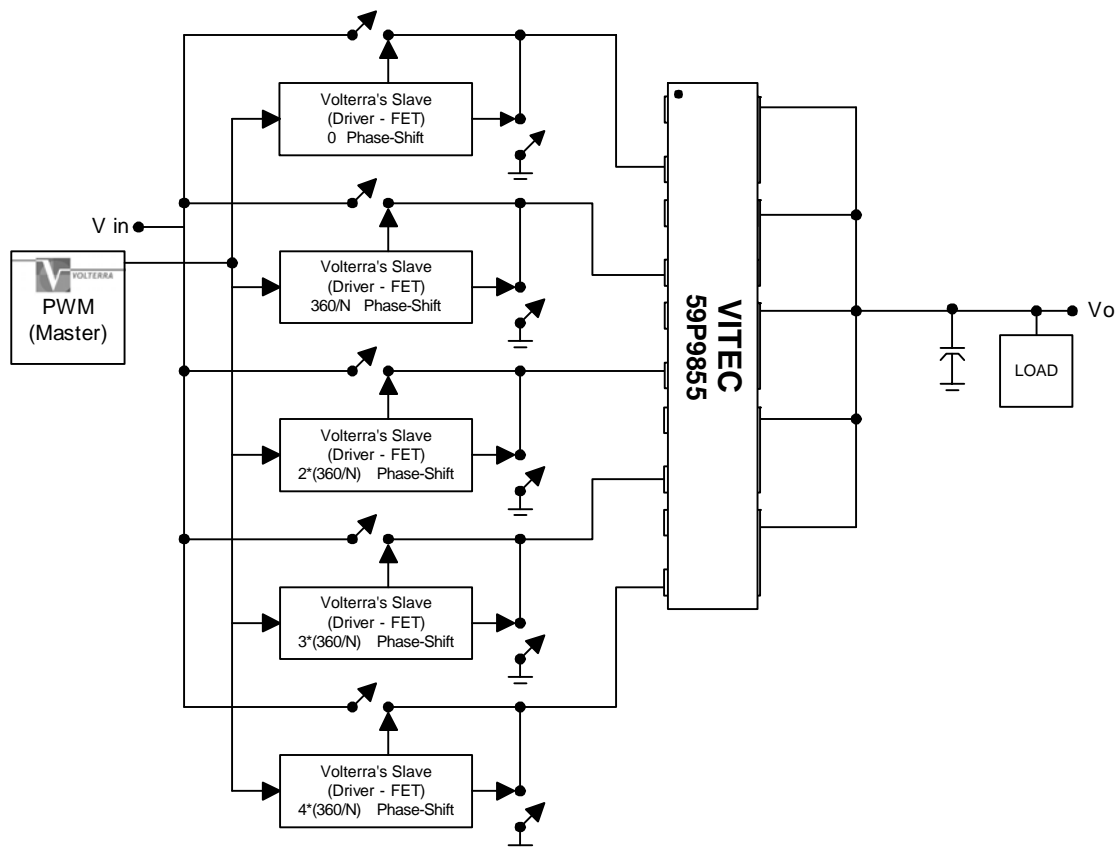
FEATURES

- Designed for use with Volterra Semiconductor's 4th generation synchronous buck voltage regulator chipsets.
- Lowest output ripple current with less output capacitors.
- Up to 2MHz operating frequency.
- Extended operating temperature range: -40°C to 125°C.
- Robust SMD package capable of handling the most aggressive SMT assembly process.
- US Patent Number 6,362,986.
- RoHS Compliant Version Available.
- Faster transient response and higher efficiency.



APPLICATIONS

- VRD and VRM 10.x and 11.x based designs
- Multi-Phase Switching regulator designs using Volterra VT1105M®, VT1115M® chipsets only
- Server, Desktop, Graphics cards, Notebook computers, DDR, telecom switches and routers

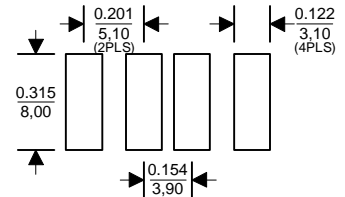
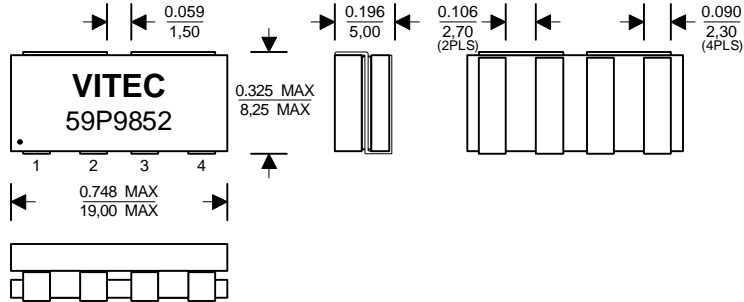


Typical Multi-Phase Application Circuit for a Synchronous Buck Converter

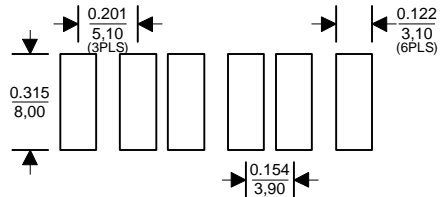
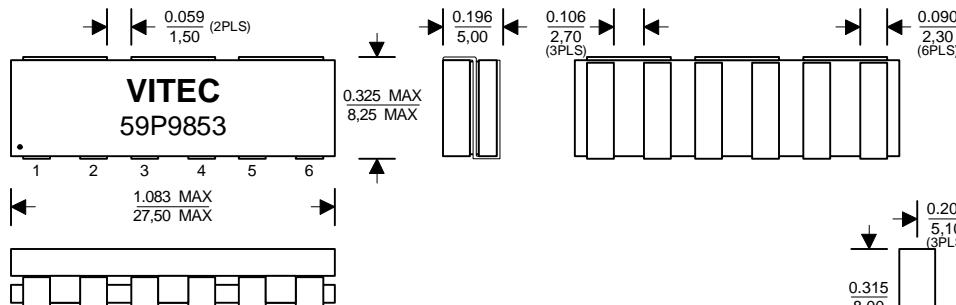
Multi-Phase SMD Coupled Inductor

Designed for Advanced Voltage Regulator Modules

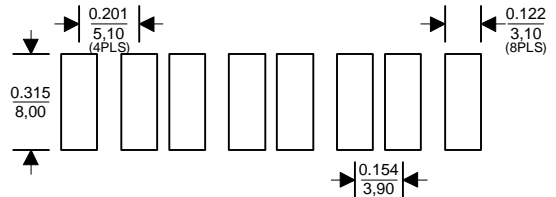
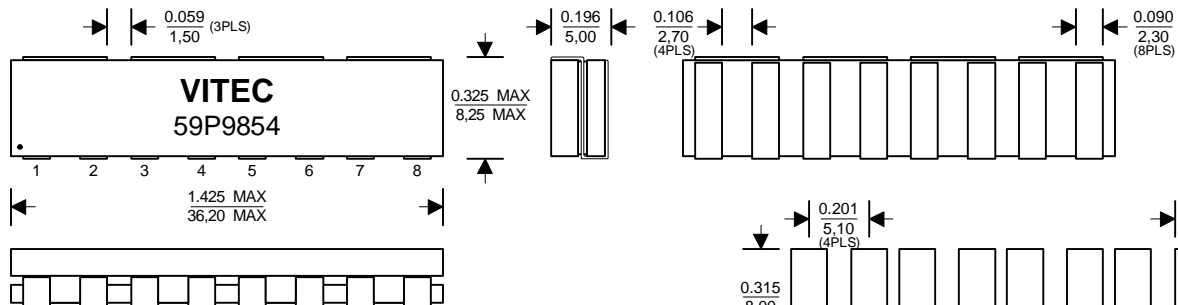
PACKAGE



Suggested PCB Layout



Suggested PCB Layout



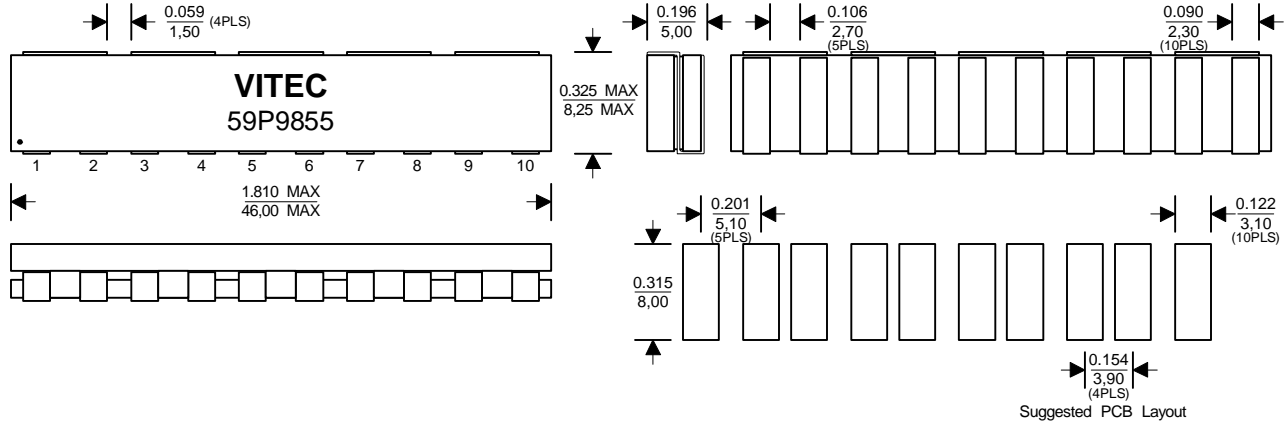
Suggested PCB Layout

Dimensions: Inches/mm. Tolerances: +/- 0.010"/0,25mm unless otherwise noted

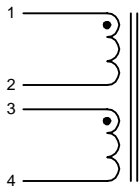
Multi-Phase SMD Coupled Inductor

Designed for Advanced Voltage Regulator Modules

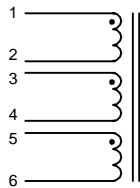
PACKAGE - Continued



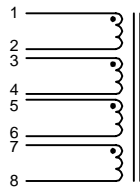
59P9852



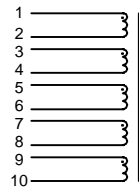
59P9853



59P9854



59P9855



ELECTRICAL CHARACTERISTICS @ 25°C (unless otherwise noted)

Part Number		Phase Inductance (1)(2)	Phase Rated Current (4)(2)	Inductance @ 0 Adc (3)					Inductance @ 5 Adc (3)					DCR	
				L (1-2)	L (3-4)	L (5-6)	L (7-8)	L (9-10)	L (1-2)	L (3-4)	L (5-6)	L (7-8)	L (9-10)		
Classic	RoHS	nH ± 20%	ADC TYP	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	nH MIN	mOhm TYP	mOhm MAX
59P9852	59PR9852	50	40	330	330	-	-	-	260	260	-	-	-	0.53	0.59
59P9853	59PR9853	50	40	360	440	360	-	-	290	400	290	-	-	0.53	0.59
59P9854	59PR9854	50	40	360	440	440	360	-	290	400	400	290	-	0.53	0.59
59P9855	59PR9855	50	40	360	440	440	440	360	290	400	400	400	290	0.53	0.59

Add an "R" to the part number after "P" for the RoHS compliant version (i.e. 59PR9852 is the RoHS compliant version of 59P9852).

Notes:

- (1) - Controlled by design based on Volterra's testing.
- (2) - Additional information on the in-circuit operation can be obtained by contacting Volterra.
- (3) - Open circuit inductance of each inductor, measured @100KHz and 1.0Vrms.
- (4) - Rated current per phase is based on practical thermal limits determined by Volterra.

ENVIRONMENTAL & RELIABILITY DATA

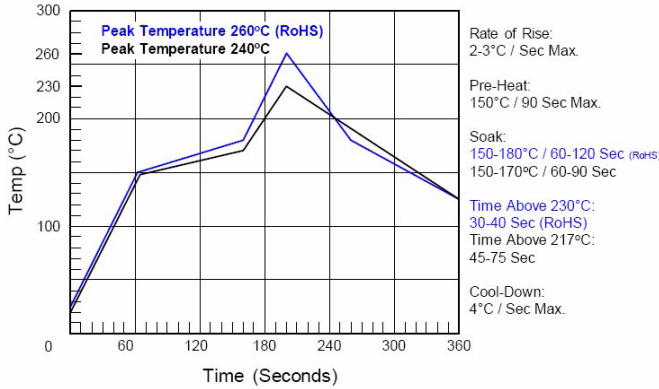
Storage Temperature: -40C to +125C
 Operating Temperature: -40C to +125C
 Resistance to Solder Reflow: 3 passes thru. +235C for 30 seconds minimum

Marking permanency: Tested per JESD22-B107-A
 Solderability: Tested per MIL-STD-750D
 Life Test: Tested per MIL-STD-202F, Method 108A
 Thermal Cycle: Tested per JESD22-B104-B, Test Condition G

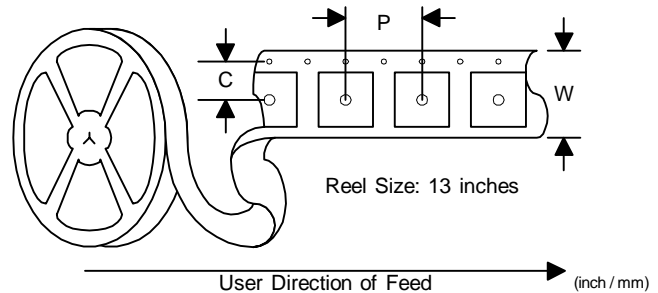
Multi-Phase SMD Coupled Inductor

Designed for Advanced Voltage Regulator Modules

IR Profile



Tape and Reel



DIM	59P9852	59P9853	59P9854	59P9855
C	0.559 / 14,20	0.795 / 20,20	1.031 / 26,20	1.346 / 34,20
W	1.259 / 32,00	1.732 / 44,00	2.205 / 56,00	2.835 / 72,00
P	0.630 / 16,00	0.630 / 16,00	0.630 / 16,00	0.630 / 16,00
QTY/Reel	750	750	400	400

ABOUT US

Vitec Electronics Corporation, founded in 1986, is a worldwide leader in the design, manufacture and sale of magnetic solutions. Vitec's market focus includes the power, power conditioning, telecom, networking, communications and computing. Vitec has also established strong alliances with chip manufacturers whereby magnetic solutions are designed in conjunction with unique silicon requirements and are offered as reference designs by the chip companies.

With its Corporate Headquarters and Research & Development center located in Carlsbad, California, and its state of the art manufacturing facility and material sourcing in China, Vitec is uniquely positioned to supply the latest technology at the lowest cost. Vitec offers both standard and custom product design capabilities with all of its facilities being ISO certified.

QUALITY POLICY

Vitec will provide products and services that meet or exceed our Customer's requirements, conform to company policies and standards, and exhibit continuously improving levels of Quality.

COMMITMENT

VITEC Electronics empowers each of its employees by providing a business environment that encourages a commitment to excellence, a sense of ownership and personal accountability to all Vitec Customers.

Competitive Pricing, Quality Products, and On Time Deliveries are expected from today's World Class Magnetics Suppliers. The high standards of today's customer are strengthening the dedication and commitment of VITEC Electronics to provide Total Customer Service.

CONTACT US

USA

VITEC ELECTRONICS CORPORATION
6213 El Camino Real
Carlsbad, CA 92009
U.S.A.

TEL: +1 (760) 918-8831
FAX: +1 (760) 918-8840

ASIA

SHANGHAI VITEC ELECTRONICS CO., LTD.
3369 He Chuan Road
Min Hang District, Shanghai, 201103
China

TEL: +86 (21) 6446-4828
FAX: +86 (21) 6446-4865