Power Inductor – RA7338-AE

For Microchip 1600W Bus Balancer Reference Design

- High current, high inductance power inductors
- Designed for high current power supply applications
- Flat wire windings provide extremely low DC and AC resistance.
- Suitable for high temperature environments, up to 125°C ambient
- AEC-Q200 Grade 1 qualified (–40°C to +125°C)
- Shield has solderable tabs for additional mounting stability.

Core material Ferrite
Environmental RoHS compliant, halogen free
Terminations RoHS compliant tin-silver over copper
Shield tabs RoHS compliant bright tin over nickel over stainless steel
Weight 109 g
Ambient temperature –40°C to +125°C with Irms current,
Maximum part temperature +165°C (ambient + temp rise).
Storage temperature Component: –40°C to +85°C.
Tray packaging: –40°C to +80°C
Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)
Failures in Time (FIT) / Mean Time Between Failures (MTBF) 38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332
Packaging 9 parts per tray
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.

Part number	Inductance (µH)[1]		DCR (mOhms)[2]		SRF (MHz)	Isat (A)[3]			Irms (A)[4]	
	min	max	typ	max		10% drop	20% drop	30% drop	20°C rise	40°C rise
RA7338-AE	17.6	24.2	0.68	0.75	9.25	19	22	24	34.0	44.5

1. Inductance tested at 100 kHz, 0.1 Vrms on Agilent/HP 4192A.
2. DCR measured on a Keithley 580 micro-ohmmeter or equivalent.
3. DC current at 25°C that causes an inductance drop of 30% (typ) from its value without current. Click for temperature derating information.
4. Current that causes the specified temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings. Click for temperature derating information.
5. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

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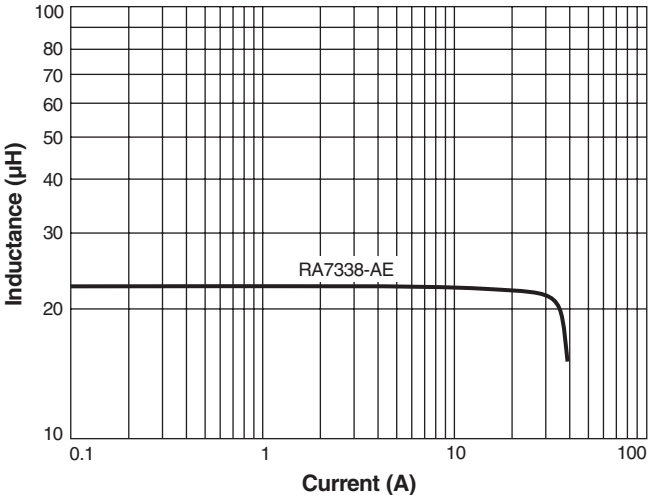
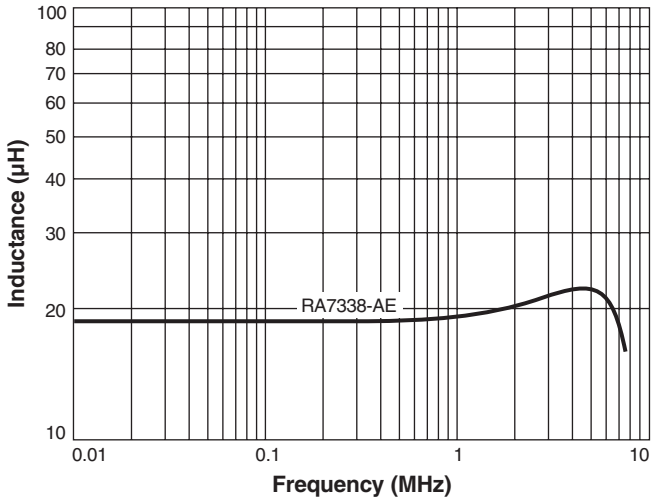
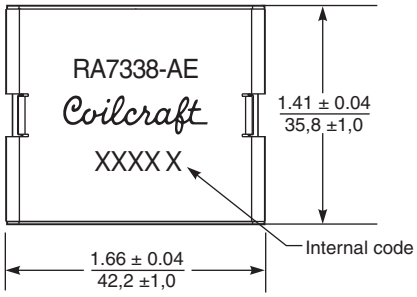
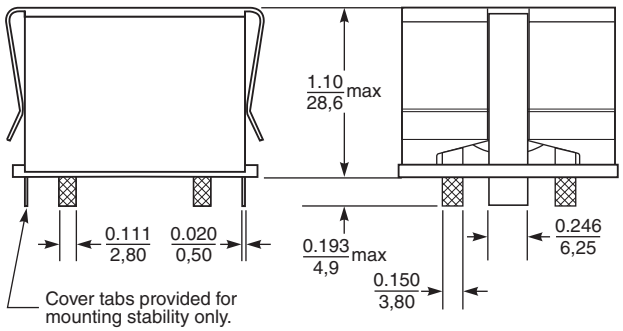
Typical L vs Current

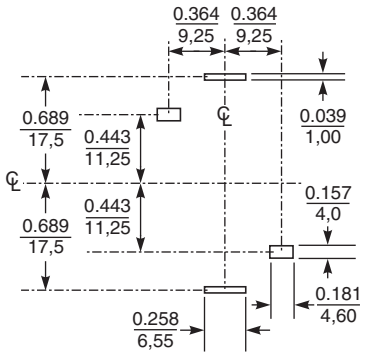


Typical L vs Frequency









Dimensions are in inches / mm

Recommended PC board layout

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