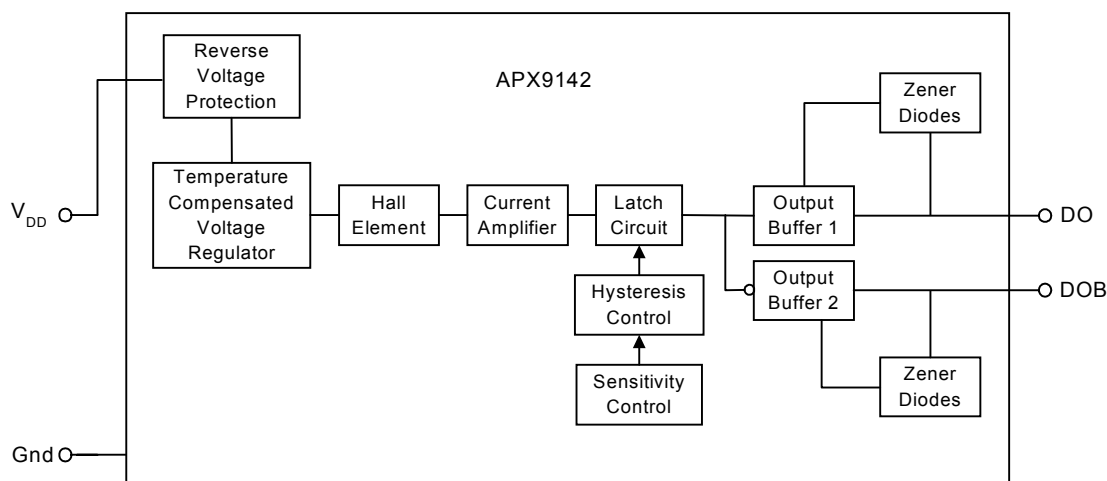


Block Diagram



Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Rating	Unit
V_{DD}	Supply Voltage	20	V
I_{DD}	Supply Current	15	mA
I_{OUT}	Output Current – Continuous	400	mA
	Hold Current	600	
	Peak (Start Up)	800	
P_D	Maximum Power Dissipation	500	mW
T_A	Operating Ambient Temperature	-20 to 85	°C
T_{STG}	Storage Temperature Range	-65 to 150	
T_{SOL}	Soldering Temperature (10 Sec.)	260	

Electrical Characteristics $T_A = 25^\circ\text{C}$, $V_{DD} = 12\text{V}$ unless otherwise noted

Symbol	Parameter	Test Condition	APX9142			Unit
			Min.	Typ.	Max.	
V_{DD}	Supply Voltage	Operating	3		20	V
V_{SAT}	Output Saturation Voltage	$I_{OUT} = 400\text{mA}$, $B > Bop$		600	800	mV
		$I_{OUT} = 200\text{mA}$, $B > Bop$		250	350	
V_{Clamp}	Clamp Output Voltage			30	V	
I_{DD}	Supply Current	$V_{DD} = 20\text{V}$, Output Open		10	15	mA
I_{Leak}^a	Output Leakage Current	$V_{OUT} = 20\text{V}$, $V_{DD} = 20\text{V}$, $B < Brp$		<0.1	10	µA
t_r^b	Output Rise Time	$R_L = 820\Omega$, $C_L = 20\text{pF}$		0.8	5	µs
t_f^b	Output Fall Time			0.1	1	µs
Δt^b	Switch Time Different			2.5	7	µs

Notes ^a : No leakage current spike when IC start-up

^b : use Figure 1

Magnetic Characteristics $T_A = 25^{\circ}\text{C}$, $V_{DD} = 12\text{V}$ unless otherwise noted

Rank	Maximum Operate Point Bop	Maximum Release Point Brp	Unit
AT	+40	-40	Gauss
A	+55	-55	Gauss
B	+80	-80	Gauss

Test Information

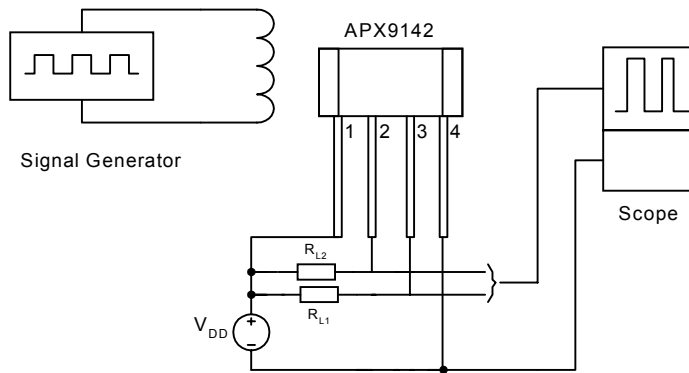


Figure 1 : Switching Circuit for Output Rise Time and Fall Time Measurement

Application Circuit

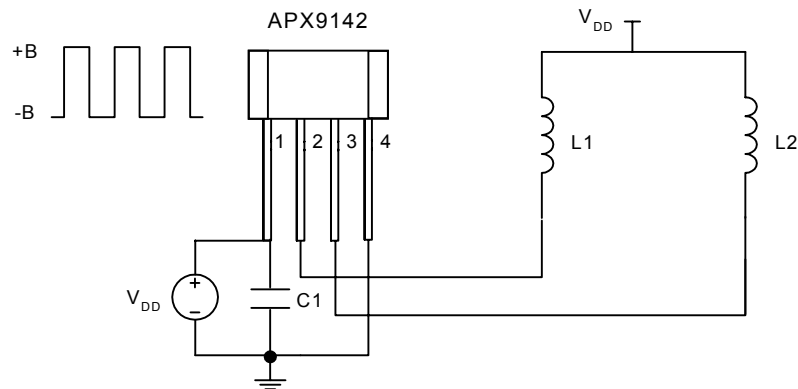
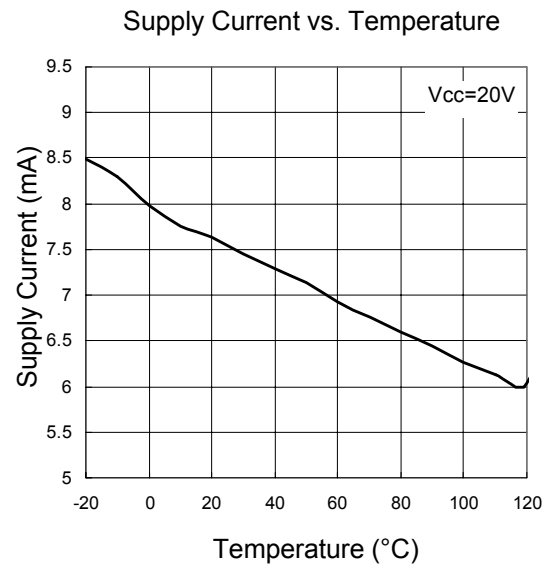
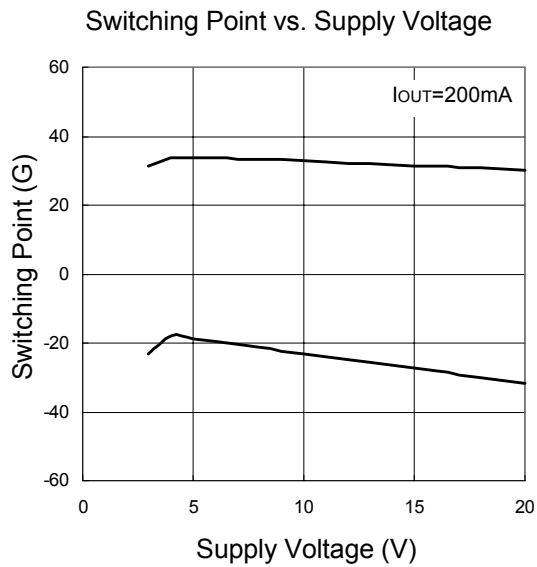
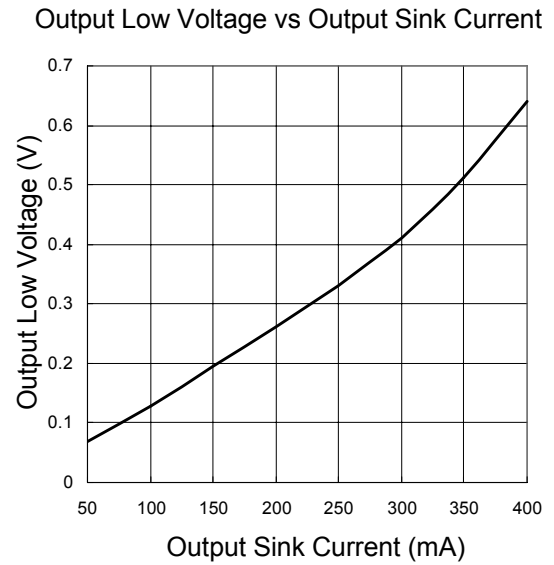
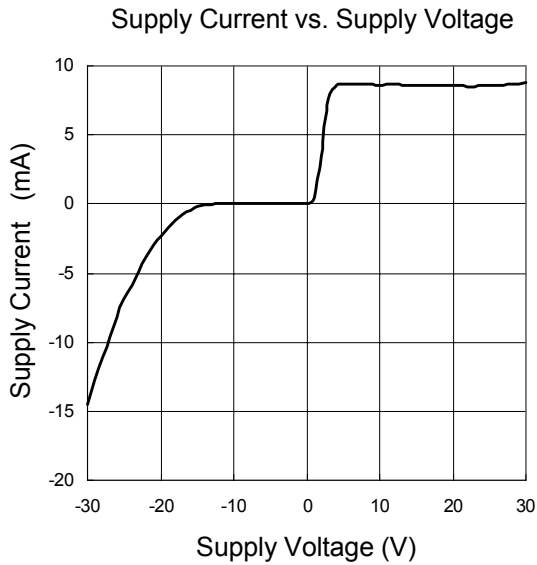
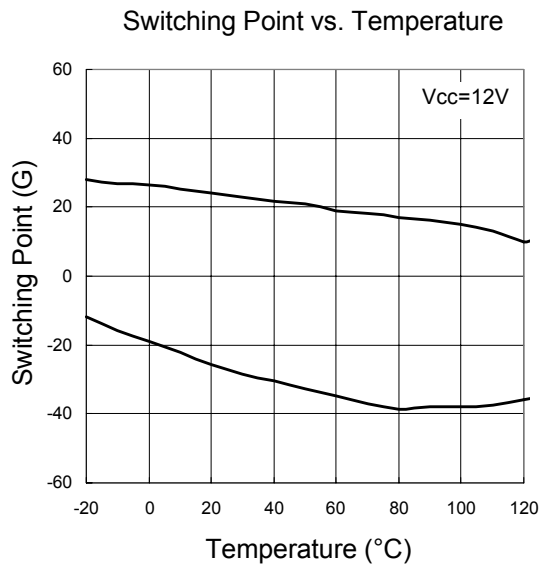


Figure 2 Typical DC brushless fan application circuit

Typical Characteristics

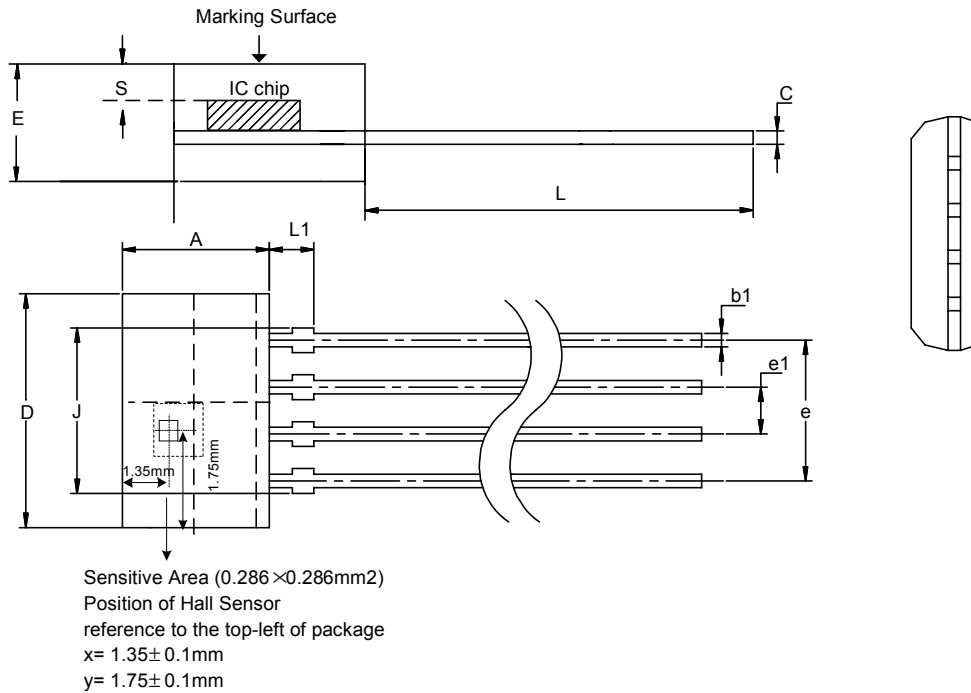


Typical Characteristics (Cont.)



Package Information

TO-92M4



Dim	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.60	3.70	0.141	0.145
b1	0.35	0.41	0.014	0.016
C	0.351	0.411	0.014	0.016
D	5.17	5.27	0.203	0.207
e	3.78	3.84	0.148	0.150
e1	1.24	1.30	0.049	0.051
E	1.50	1.60	0.059	0.063
J	4.04	4.34	0.158	0.170
L	14.0	15.0	0.549	0.588
L1	1.342	1.542	0.053	0.060
S	0.45	0.55	0.018	0.022

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