

Condition B: Sensor Specifications (360° turn , Vo_{max}>0, Vo_{min}<0)			
Output signal amplitude	V _{PEAK}	mV/V	$V_{PEAK} = (V_{Omax} - V_{Omin})/2/V_{CC}$
Offset voltage	V _{OFF}	mV/V	$V_{OFF} = (V_{Omax} + V_{Omin})/2/V_{CC}$
Angular inaccuracy	Δα	deg	Δα = MAX α ₀ -α ; max. angular difference between actual field angle α ₀ and measured angle α due to deviations from ideal sinusoidal characteristics, calculated from the third and fifth harmonics of the Fourier spectrum; offset voltage error contributions not included
Angular hysteresis	ΔαH	deg	ΔαH = α _{left turn} - α _{right turn} angular difference between left and right turn

MEASUREMENT CONDITIONS

Parameter	Symbol	Unit	Condition
Condition C: Sensor Specifications (-25°C, +125°C)			
Ambient temperatures	T	°C	T ₁ = -25 °C, T ₀ = +25 °C, T ₂ = +125 °C
TC of amplitude	TCSV	%/K	$TCV = \frac{1}{(T_2 - T_1)} \cdot \frac{\frac{\Delta Vn}{V_{cc}}(T_2) - \frac{\Delta Vn}{V_{cc}}(T_1)}{\frac{\Delta Vn}{V_{cc}}(T_1)} \cdot 100\%$
TC of resistance	TCBR	%/K	$TCR = \frac{1}{(T_2 - T_1)} \cdot \frac{R(T_2) - R(T_1)}{R(T_1)} \cdot 100\%$
TC of offset	TCVoff	(μV/V)/K	$TCV_{off} = \frac{V_{off}(T_2) - V_{off}(T_1)}{(T_2 - T_1)}$

BLOCK DIAGRAM

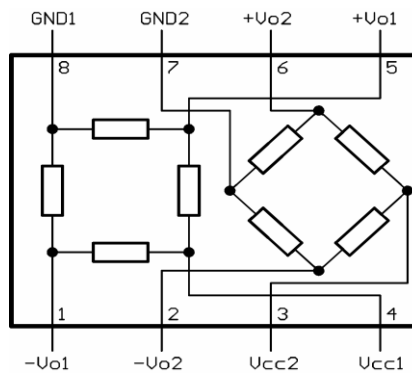


Figure 1: Circuit Diagram

KMT32B

Magnetic Angle Sensor

TYPICAL PERFORMANCE CURVES

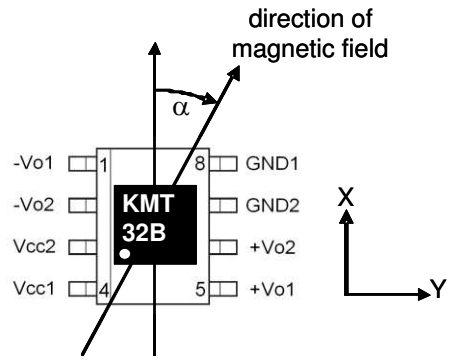
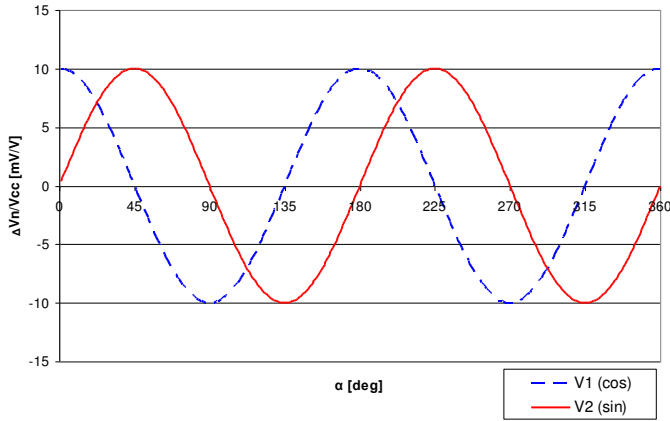
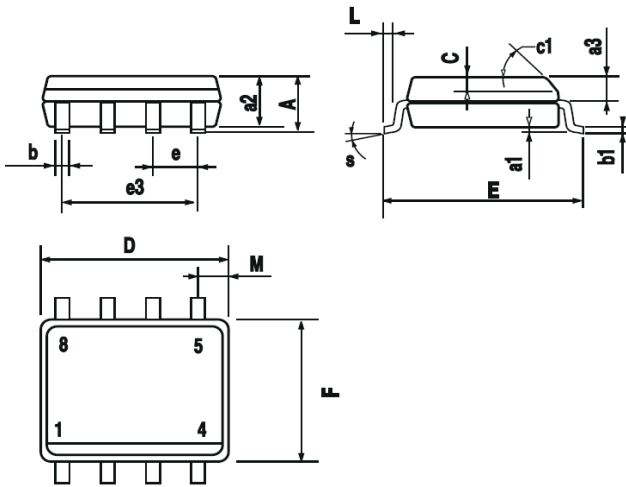


Figure 2: Characteristic curves for KMT32B (SO8, TDFN)

PACKAGES

SO8



DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A			1.75			0.069
a1	0.1		0.25	0.004		0.010
a2			1.65			0.065
a3	0.65		0.85	0.026		0.033
b	0.35		0.48	0.014		0.019
b1	0.19		0.25	0.007		0.010
C	0.25		0.5	0.010		0.020
c1	45° (typ.)					
D (1)	4.8		5.0	0.189		0.197
E	5.8		6.2	0.228		0.244
e		1.27			0.050	
e3		3.81			0.150	
F (1)	3.8		4.0	0.15		0.157
L	0.4		1.27	0.016		0.050
M			0.6			0.024
S	8° (max.)					