

SS39ET/SS49E/SS59ET Series

Table 1. Operating Characteristics ($V_s = 5.0\text{ V}$, $T_A = -40\text{ }^\circ\text{C}$ to $85\text{ }^\circ\text{C}$ [$-40\text{ }^\circ\text{F}$ to $185\text{ }^\circ\text{F}$], except where noted.)

Characteristic	Condition	Min.	Typ.	Max.	Unit
Output type		linear, sourcing			—
Magnetics type		analog			—
Supply voltage	—	2.7	—	6.5	Vdc
Supply current	25 °C [77 °F]	—	6	10	mA
Output voltage	—	1.0	1.4	1.75	mV/Gauss
Output current	$V_s > 3.0\text{ V}$	1.0	1.5	1.5	mA
Null	0 Gauss, 25 °C	2.25	2.50	2.75	Vdc
Output voltage span	—	1.05 to ($V_s - 1.05$)	0.95 to ($V_s - 0.95$)	—	Vdc
Magnetic range	—	± 650	± 1000	—	Gauss
Sensitivity	25 °C	1.0	1.4	1.75	mV/Gauss
Operating temperature	—	-40 [-40]	—	100 [212]	°C [°F]
Temperature error:					
Null drift	—	-0.10	—	0.10	%/°C
Sensitivity drift	$\geq 25\text{ }^\circ\text{C}$	-0.15	—	0.05	
	$\leq 25\text{ }^\circ\text{C}$	-0.04	—	0.185	
Linearity	—	—	-0.7	—	% of span
Response time	—	—	3	—	μs

Table 2. Absolute Maximum Ratings

Characteristic	Parameter
Supply voltage (V_s)	-5.0 Vdc to 8.0 Vdc
Output current	10 mA
Storage temperature	-55 °C to 165 °C [-67 °F to 329 °F]

NOTICE

Absolute maximum ratings are the extreme limits that the device will withstand without damage to the device. However, the electrical and mechanical characteristics are not guaranteed as the maximum limits (above recommended operating conditions) are approached, nor will the device necessarily operate at absolute maximum ratings.

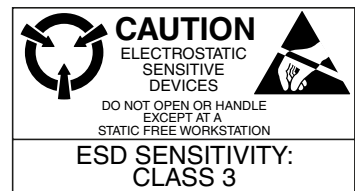


Figure 1. Current Sourcing Output Block Diagram

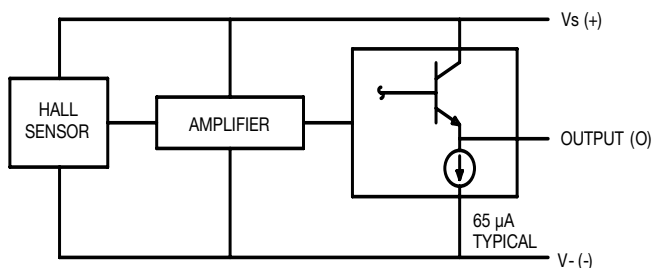
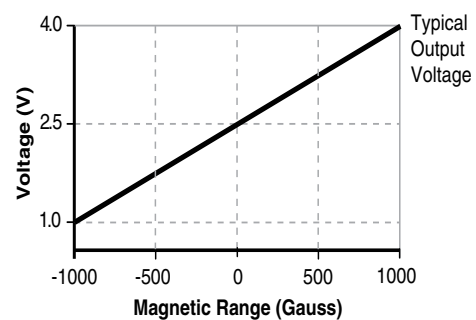


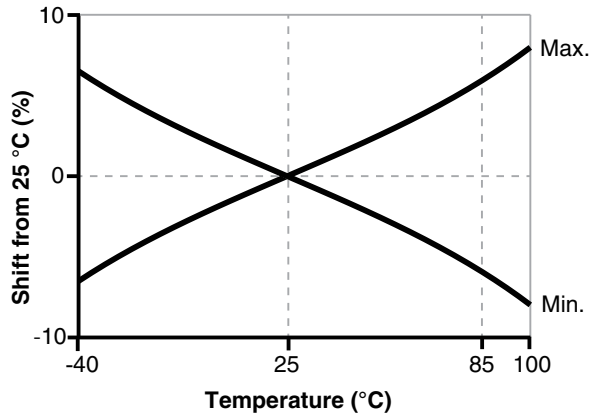
Figure 2. Transfer Characteristics ($V_s = 5.0\text{ Vdc}$)



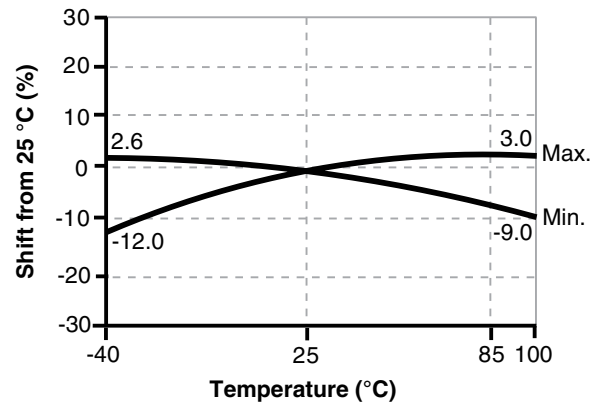
Linear Hall-effect Sensor ICs

Figure 3. Performance Graphics

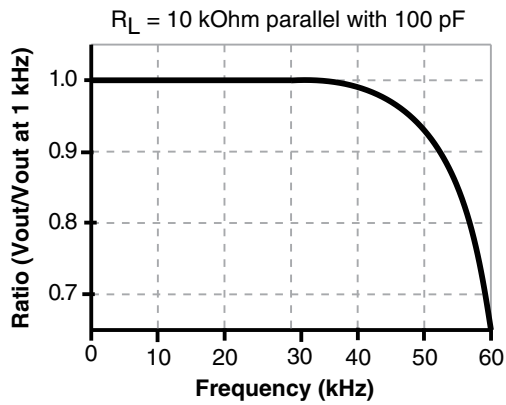
Null Shift vs Temperature



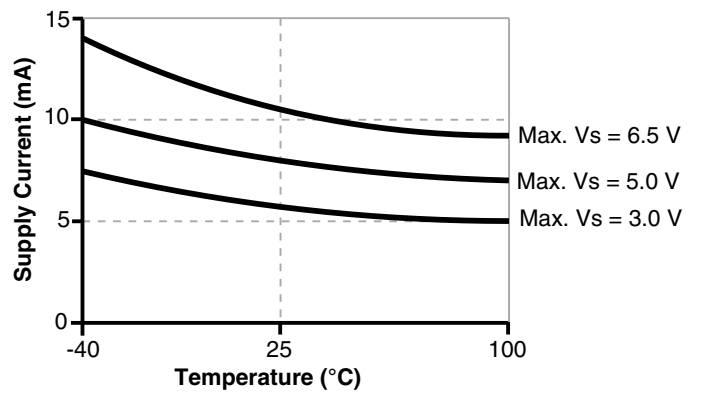
Sensitivity Shift vs Temperature



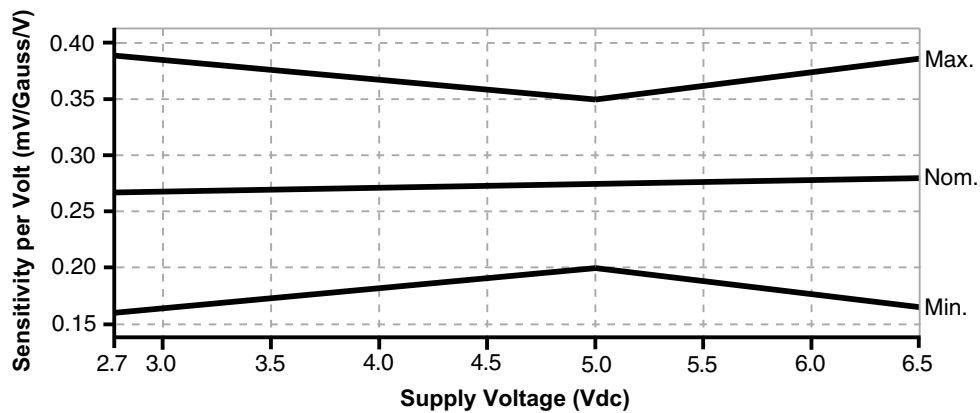
Typical Frequency Response



Supply Current vs Temperature



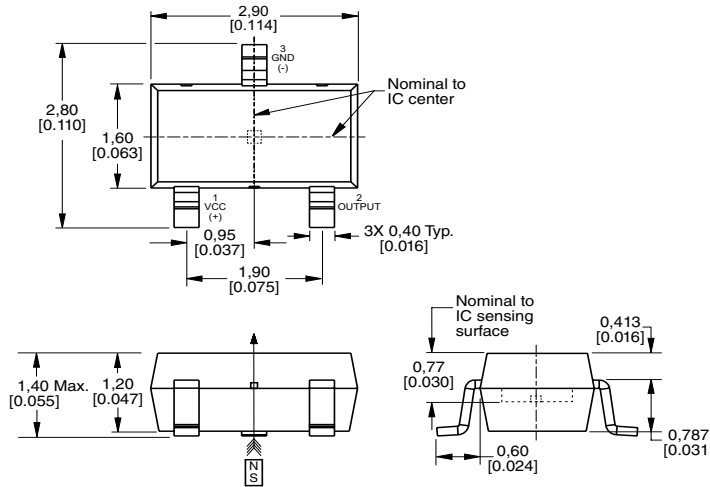
Sensitivity per Volt vs V_{supply}



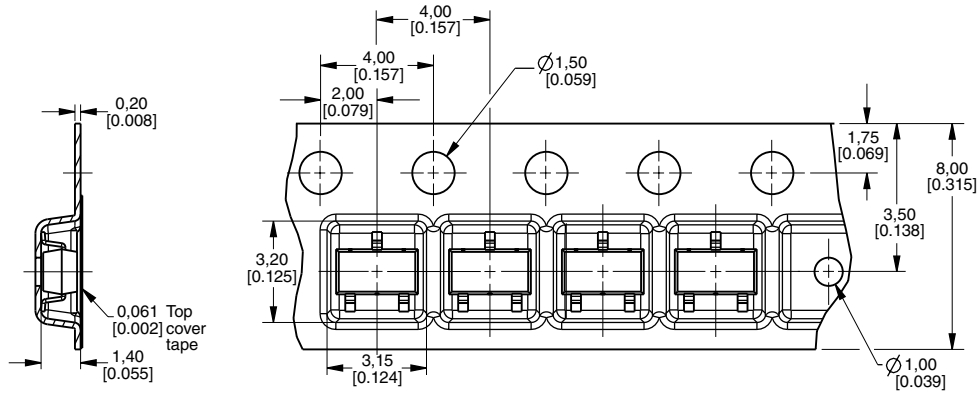
SS39ET/SS49E/SS59ET Series

Figure 4. Mounting Dimensions (For reference only. mm/[in.])

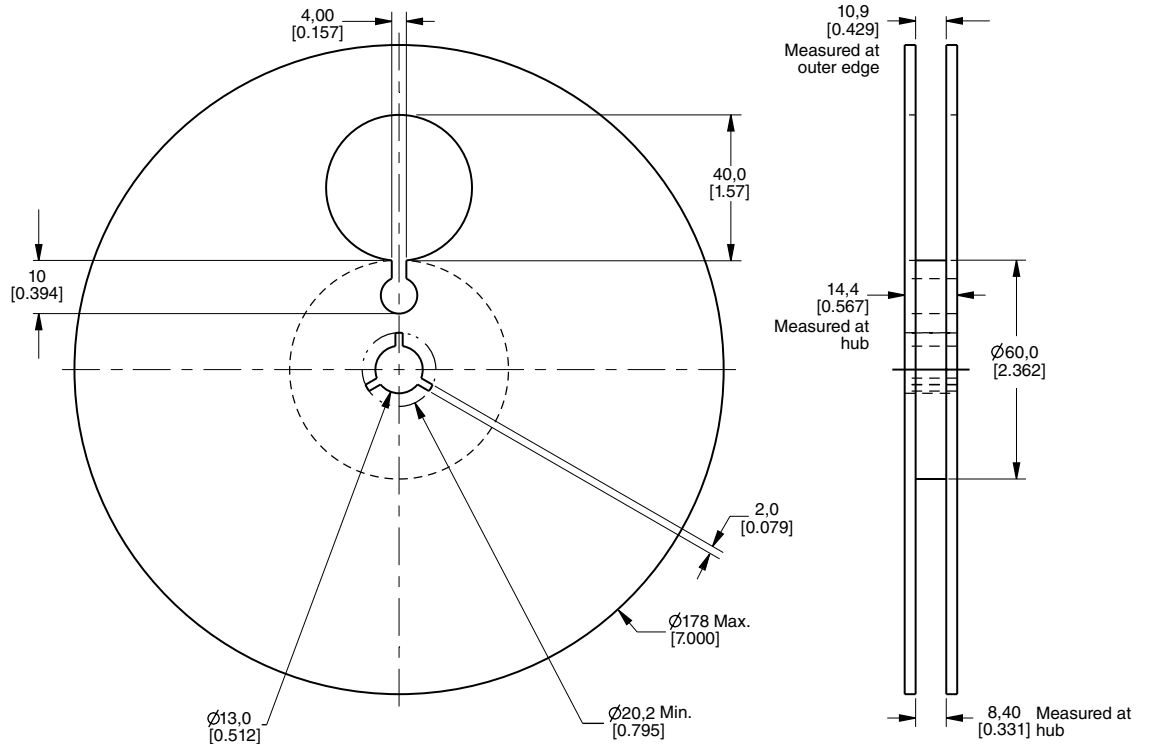
SS39ET



Tape

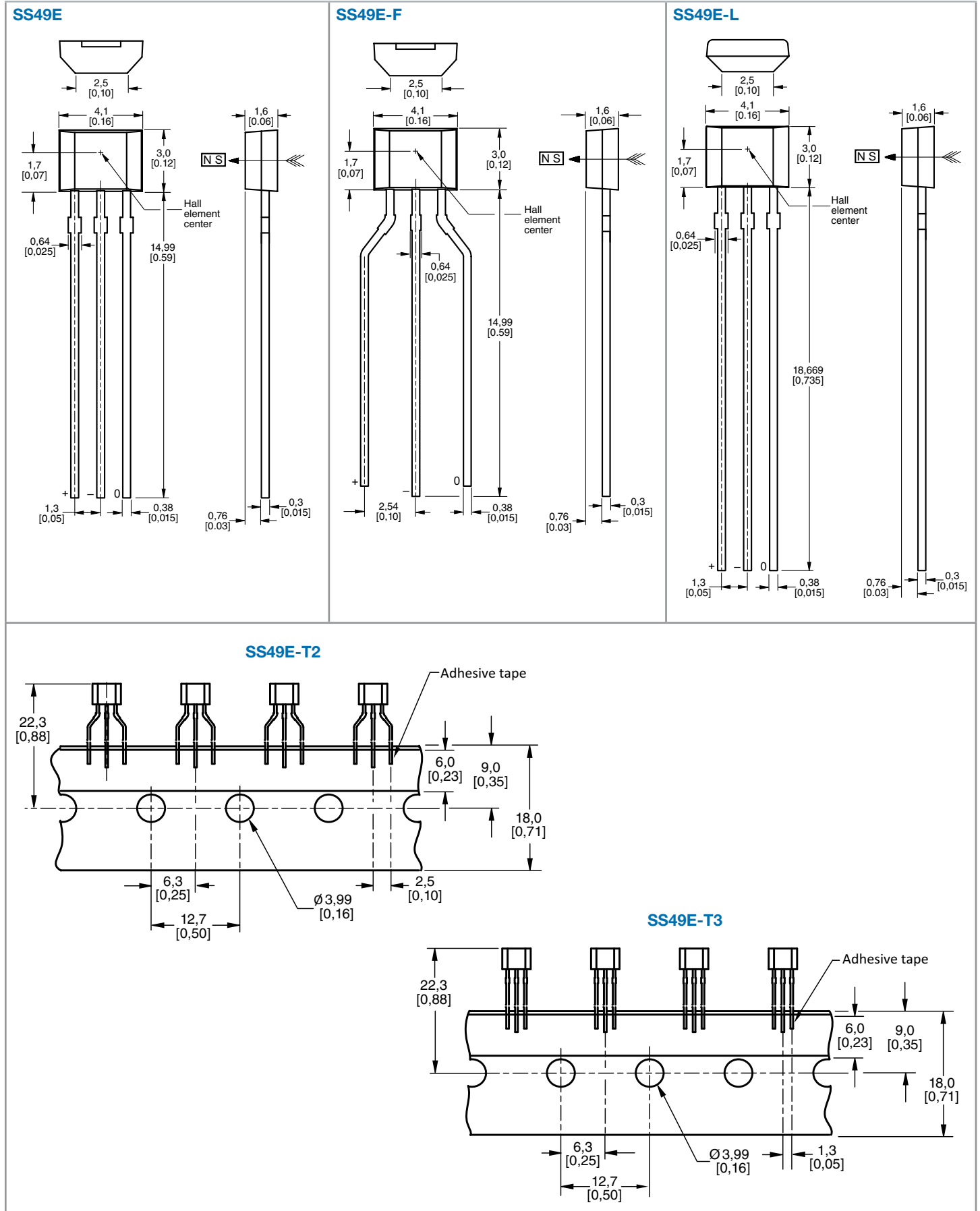


Reel



Linear Hall-effect Sensor ICs

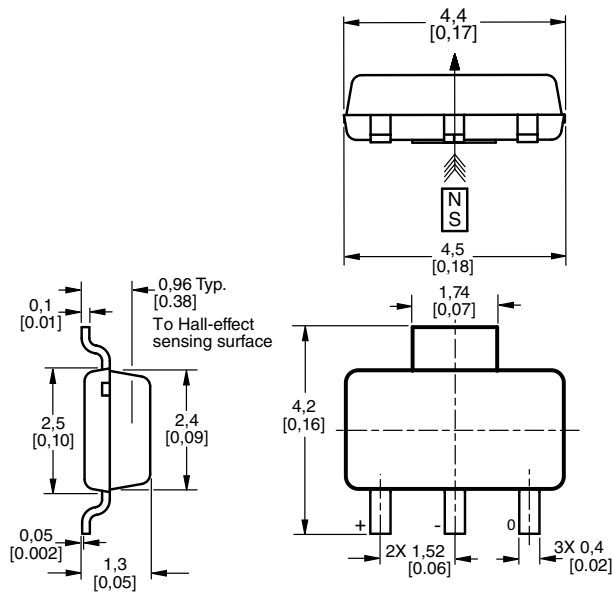
Figure 4. Mounting Dimensions (continued)



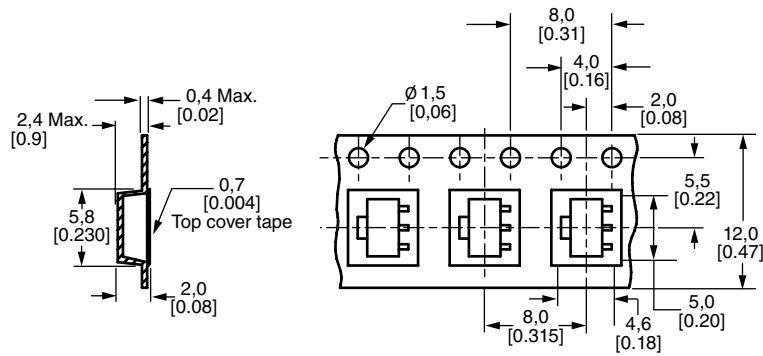
SS39ET/SS49E/SS59ET Series

Figure 4. Mounting Dimensions (continued)

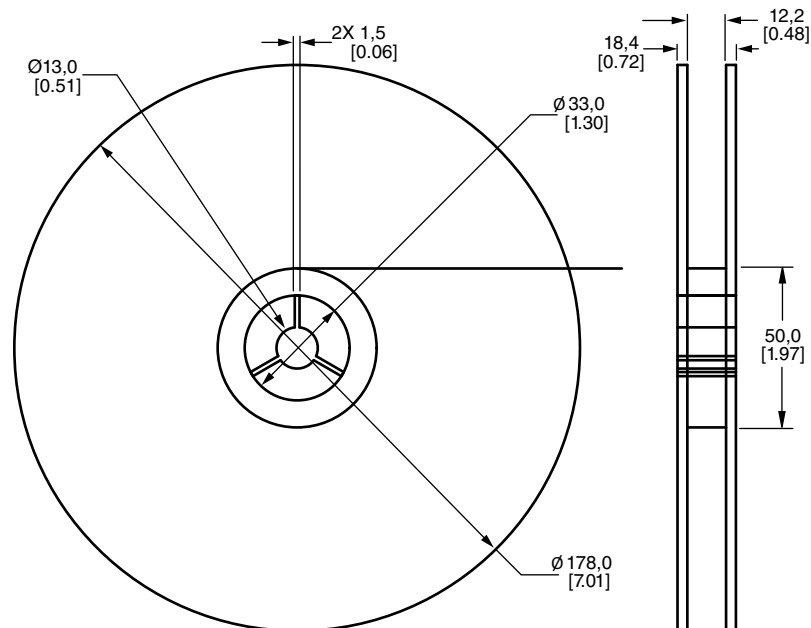
SS59ET



Tape




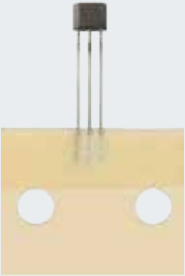




Reel



Linear Hall-effect Sensor ICs

Table 3. Order Guide

Catalog Listing	Description		Catalog Listing	Description	
SS39ET	Linear Hall-effect sensor IC, SOT-23, tape and reel packaging (3000 units per reel)		SS59ET	Linear Hall-effect sensor IC, SOT-89B, tape and reel packaging (1000 units per reel)	
SS49E	Linear Hall-effect sensor IC, flat TO-92-style, straight leads, 14,99 mm [0.59 in] lead length, 1,30 mm [0.05 in] spacing, bulk packaging (1000 units per bag)		SS49E-T3	Linear Hall-effect sensor IC, flat TO-92-style, tape-in-box (ammopack) packaging, straight leads (5000 units per box)	
SS49E-F	Linear Hall-effect sensor IC, flat TO-92-style, formed leads, 14,99 mm [0.59 in] lead length, 2,54 mm [0.10 in] spacing, bulk packaging (1000 units per bag)		SS49E-T2	Linear Hall-effect sensor IC, flat TO-92-style, tape-in-box (ammopack) packaging, formed leads (5000 units per box)	
SS49E-L	Linear Hall-effect sensor IC, flat TO-92-style, straight leads, 18,67 mm [0.75 in] lead length, 1,30 mm [0.05 in] spacing, bulk packaging (1000 units per bag)	