



# ZEBRA SE950/SE955

## OEM SCAN ENGINE

### MINIATURE SCAN ENGINE SETS NEW STANDARD FOR PERFORMANCE, FEATURES AND RELIABILITY

The Zebra SE950/SE955 miniature scan engine sets a new benchmark, offering best-in-class quality, reliability, durability and scanning performance. Scanning across the wide working range is easy, intuitive and rapid, regardless of environment. The durable engine design enables you to deliver products that perform reliably day in and day out, increasing productivity and reducing total cost of ownership. Regardless of whether you are designing handheld computers, medical instruments, diagnostic equipment, lottery terminals, robotics and more, these extremely small scan engines deliver next generation performance with an ease of integration that enables rapid cost-effective product development — a true competitive advantage.

### DURABILITY FOR ALL DAY EVERY DAY USE

The Zebra SE950/SE955 offers superior reliability you can count on, regardless of whether you are incorporating the Zebra SE950/SE955 into mobile computers or laboratory analyzers. The patented Liquid Polymer Scan Technology is frictionless and will not wear out. Designed for durability, the elimination of fragile silicon mirrors combined with the die cast chassis enables the Zebra SE950/SE955 to handle drop shocks up to 2000Gs. You enjoy maximum uptime – and a lower total cost of ownership.

### INCREASED PRODUCTIVITY

Scanning speed is optimized to provide aggressive read times, and the programmable scan line is easily adjusted, providing the flexibility to use a single scan engine for a wide variety of uses. The result is the rapid and accurate scanning needed to improve worker productivity.

### LOWER TOTAL COST OF OWNERSHIP (TCO)

The Zebra SE950/SE955 enables the development of products that offer superior manageability. Built-in system performance monitoring enables remote access to scan engine statistics. Management of your products is easier, less time consuming and less expensive — a competitive advantage for you and a lower TCO for your customers.

### RAPID AND FLEXIBLE INTEGRATION

The miniature Zebra SE950/SE955 is designed to easily integrate into the products you design today — and tomorrow. The industry standard form factor allows you to easily upgrade your current scan engine without the expense of changing your tooling processes, allowing you to offer the latest technology without the time and cost associated with changing your production line.

For more information on how you can empower your product designs with the SE950/SE955, visit [www.zebra.com/se95x](http://www.zebra.com/se95x) or access our global contact directory at [www.zebra.com/contact](http://www.zebra.com/contact)

### FEATURES

#### Large working range

Meets the needs of a wide range of applications for increased productivity

#### Small and light scan engine

Easily optimize product designs

#### 100 scans per second

Optimized scanning speed delivers aggressive performance and accurate capture of all bar codes — even damaged and poor quality

#### Low power consumption

Increases battery life in portable terminals

#### Bright scan line and aim mode

Provides intuitive ease-of-use across the entire working range

#### Programmable scan angle

Provides flexibility to easily and cost-effectively customize products for specific applications

#### RoHS compliant

Meets RoHS requirements

#### Die cast zinc chassis and single board construction

Shock rating of 2,000G for outstanding durability

#### Liquid Polymer scan element

## SE950 SCAN ENGINE SPECIFICATIONS CHART (UNCODED)

Eliminates friction and wear for superior durability and reliability

**Flash upgradeable**  
Easy to upgrade software

PHYSICAL CHARACTERISTICS		PERFORMANCE CHARACTERISTICS	
Dimensions	0.46 in. H x .85 in. W x .61 in. D 11.75 mm H x 21.6 mm W x 15.5 mm D	Light Source	Visible Laser Diode 650 nm
Weight	0.27 oz./7.5 g	Scan Rate	104 (±) 12 scans/sec (bi-directional)
Configuration	Uncoded	Scan Angle	47° ± 3° (typical) / 35° ± 3° (narrow)
Interface	DPB and I <sup>2</sup> C control on a 10 pin ZIF connector	Scan Patterns	Linear
<b>USER ENVIRONMENT</b>		Minimum Print Contrast	Minimum 20% absolute dark/light reflectance measured at 650 nm
Ambient Light	Tolerant to typical artificial indoor and natural outdoor (direct sunlight) lighting conditions. Fluorescent, Incandescent, Mercury Vapor, Sodium Vapor, LED <sup>1</sup> : 450 Ft Candles ( 4,844 Lux) Sunlight: 8000 Ft Candles (86,111 Lux)	Ranges - 1D codes	<b>4 mil:</b> Code 39; 2.5:1 - 80% MRD: 1 - 5.5 (in) / 2.5 - 13.97 (cm) <b>5 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.25 - 8 (in) / 3.18 - 20.32 (cm) <b>7.5 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.5 - 13 (in) / 3.81 - 33.02 (cm) <b>10 mil:</b> Code 39; 2.5:1 - 90% MRD: 1.5 - 18 (in) / 3.81 - 45.72 (cm) <b>13 mil:</b> 100% UPC - 90% MRD: 1.5 - 24 (in) / 3.81 - 60.96 (cm) <b>15 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.5 - 28 (in) / 3.81 - 71.12 (cm) <b>20 mil:</b> Code 39; 2.2:1 - 80% MRD: 1.75 - 33 (in) / 4.45 - 83.82 (cm) <b>40 mil:</b> Code 39; 2.2:1 - 80% MRD: * - 36 (in) / x - 91.44 (cm) (dependent on width of barcode) <b>55 mil:</b> Code 39; 2.2:1 - 80% MRD: * - 45 (in) / x - 114.30 (cm) (dependent on width of barcode)
Operating Temp.	-4° to 140°F (-20° to 60°C)	(* = dependent on width of bar code)	
Storage Temp.	-40° to 158°F (-40° to 70°C)	1 - LED lighting with high AC ripple content can impact scanning performance	
Humidity	5% to 95%, non-condensing		
Power	Input Voltage: 3.3 VDC± 10% Scan Current: 76 mA typical Standby Current: 12 µA max.		
Shock Rating	2,000 G		
<b>REGULATORY</b>			
Laser Classification	Intended for use in CDRH Class II and IEC Class 2 devices - Optional Class I model		
Electrical Safety	UL 60950, EN/IEC 60950		
EMI/RFI	FCC Part 15 Class B, EN 55024/ CISPR 22, AS 3548, VCCI		
Environmental	RoHS Compliant		

## SE955 SCAN ENGINE SPECIFICATIONS CHART (DECODED)

PHYSICAL CHARACTERISTICS		PERFORMANCE CHARACTERISTICS	
Dimensions	<b>SE-955-1100R (3.3V):</b> .46H x .85W x .61D (in) / 11.8H x 21.6W x 15.5D (mm)	Light Source	Visible Laser Diode 650 nm
		Scan Rate	104 (±) 12 scans/sec (bi-directional)
		Scan Angle	47° ± 3° (typical) / 35° ± 3° (narrow)

	<b>SE-955-I105R (5V):</b> .48H x .85W x .89D (in) / 12.1H x 21.6W x 22.6D (mm)		)
<b>Weight</b>	.28 oz./ 8 g	<b>Scan Patterns</b>	Linear
<b>Configuration</b>	Decoded	<b>Minimum Print Contrast</b>	Minimum 20% absolute dark/light reflectance measured at 650 nm
<b>Interface</b>	SSI Control over TTL Serial on a 12 pin ZIF connector	<b>Symbologies Supported</b>	All major 1D bar codes

## USER ENVIRONMENT

<b>Ambient Lighting Tolerance</b>	Tolerant to typical artificial indoor and natural outdoor (direct sunlight) lighting conditions. Fluorescent, Incandescent, Mercury Vapor, Sodium Vapor, LED <sup>1</sup> : 450 Ft Candles (4,844 Lux) Sunlight: 8000 Ft Candles (86,111 Lux)	<b>Programmable Parameters</b>	Laser On Time, Aim Duration, Power Mode, Trigger Mode, Bi-directional Redundancy, Symbology Types/ Lengths, Data Formatting, Serial Parameters, Beeper Tone, Scan Angle
<b>Operating Temperature</b>	-4° to 140°F (-20° to 60°C)	<b>Ranges - 1D codes</b>	<b>4 mil:</b> Code 39; 2.5:1 - 80% MRD: 1 - 5.5 (in) / 2.5 - 13.97 (cm) <b>5 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.25 - 8 (in) / 3.18 - 20.32 (cm) <b>7.5 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.5 - 13 (in) / 3.81 - 33.02 (cm) <b>10 mil:</b> Code 39; 2.5:1 - 90% MRD: 1.5 - 18 (in) / 3.81 - 45.72 (cm) <b>13 mil:</b> 100% UPC - 90% MRD: 1.5 - 24 (in) / 3.81 - 60.96 (cm) <b>15 mil:</b> Code 39; 2.5:1 - 80% MRD: 1.5 - 28 (in) / 3.81 - 71.12 (cm) <b>20 mil:</b> Code 39; 2.2:1 - 80% MRD: 1.75 - 33 (in) / 4.45 - 83.82 (cm) <b>40 mil:</b> Code 39; 2.2:1 - 80% MRD: * - 36 (in) / x - 91.44 (cm) (dependent on width of barcode) <b>55 mil:</b> Code 39; 2.2:1 - 80% MRD: * - 45 (in) / x - 114.30 (cm) (dependent on width of barcode)
<b>Storage Temperature</b>	-40° to 158°F (-40° to 70°C)		
<b>Humidity</b>	5% to 95%, non-condensing		
<b>Power</b>	Input Voltage: <b>SE-955-I100R (3.3V):</b> 3.3 ± 10% <b>SE-955-I105R (5V):</b> 5V ± 10% Scan Current: <b>SE-955-I100R (3.3V):</b> 86mA <b>SE-955-I105R (5V):</b> 90mA Standby Current: <b>SE-955-I100R (3.3V):</b> 12µA <b>SE-955-I105R (5V):</b> .35µA		
<b>Shock Rating</b>	2,000 G		

## REGULATORY

<b>Laser Classification</b>	Intended for use in CDRH Class II and IEC Class 2 devices - Optional Class I model		
<b>Electrical Safety</b>	UL 60950, EN/IEC 60950		
<b>EMI/RFI</b>	FCC Part 15 Class B, EN 55024/ CISPR 22, AS 3548, VCCI		
<b>Environmental</b>	RoHS compliant		

(\* = dependent on width of bar code)  
1 - LED lighting with high AC ripple content can impact scanning performance



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