

Interior Gesture Control

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Interior Gesture Control

VISHAY Components used for Gesture Control include:

- Power MOSFETS
 - TVS
 - Switching Diodes and Rectifiers
 - Capacitors
 - Resistors
 - NTC and PTC Thermistors
 - Inductors/EMI Filters
 - Transformers
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Application Overview

When designing interactive interfaces for automotive interior control safety and intuitive to use must be the main focus. To operate the sun roof with a wave of the hand, pull up and operate the head-up windshield display with your finger gestures and operate your sound system with motions, is major task of gesture control in vehicles while driver is focused on road traffic. Gesture recognition technology is expected to be the next generation in-car interior user interface. Gesture recognition determines whether the driver has performed recognizable hand or finger gestures within an allotted space without contacting a touchscreen.

Interior Gesture Control : Power supply external emitter, Emitter

IR-LED

Product Name	Status	Description	Features	Package	Q-Level
VSMF2890RGX01		High Speed Infrared Emitting Diodes 890 nm, GaAlAs, DH	Peak wavelength: 890 nm Low forward voltage High radiant power	SMD GW,RGW	

Interior Gesture Control : Power supply external emitter, Sensing

Voltage / Current detectors

Product Name	Status	Description	Features	Package	Q-Level
CRCWe3		Standard Thick Film SMD Chip Resistor Stability $\Delta R/R = 1\%$ for 1000 h at 70 ° C	1R0 to 10M Ω Metal glaze on high quality ceramic	SMD EIA 0201...2512	AEC-Q200

Interior Gesture Control : Power supply external emitter, Switch

MOSFET

Product Name	Status	Description	Features	Package	Q-Level
SQS420EN		N-Channel 20-V (D-S) 175°C MOSFET	Rdson=3,2mOhm	SMD PPAK 1212-8	

Interior Gesture Control : Protection, ESD

Diode

Product Name	Status	Description	Features	Package	Q-Level
GSOT03 to GSOT36		Single-Line ESD Protection	± 30 kV contact discharge,	SMD SOT-23	

Interior Gesture Control : Protection, TVS

Load Dump Protection 12V Battery Line

Product Name	Status	Description	Features	Package	Q-Level
TPSMP6.8 thru TPSMP43A		High Power Density Surface Mount PAR® suitable for high reliability	TJ = 185 °C capability; Very low profile - 1.0 mm Excellent clamping	SMD DO-220AA eSMP	AEC-Q101

Interior Gesture Control : Sensor Unit, External Emitter

IR-LED

Product Name	Status	Description	Features	Package	Q-Level
VSMF2890RGX01		High Speed Infrared Emitting Diodes 890 nm, GaAlAs, DH	Peak wavelength: 890 nm Low forward voltage High radiant power	SMD GW,RGW	AEC-Q101

Interior Gesture Control : Sensor Unit, Optical Sensor

Gesture Sensor

Product Name	Status	Description	Features	Package	Q-Level
VCNL4020X01		Fully Integrated Proximity and Ambient Light Sensor with Infrared Emitter, I2C Interface, and Interrupt Function	operating range 1- 200mm Interrupt function VDD: 2.5 V to 3.6 V	SMD 4.9x2.4x0.83	AEC-Q101

Interior Gesture Control : Switch mode power supply, Buffer Capacitor

Electrolytic

Product Name	Status	Description	Features	Package	Q-Level
140CLH		Aluminum Capacitors SMD (Chip) High temp 125 degree	High temp 125 degree	SMD 4x4x5,3 10x10x14	AEC-Q101

MLCC

Product Name	Status	Description	Features	Package	Q-Level
VJ...31/VJ...34 AT		MLC-Capacitors for High Reliability Applications	High operating temperatur Noble Metal Electrode,	SMD 0402 -3640	AEC-Q200

Tantalum

Product Name	Status	Description	Features	Package	Q-Level
TP3		Solid Tantalum SMD Chip Capacitors Molded Case, High Performance Automotive Grade	Low ESR 100 % surge current tested	SMD Molded	AEC-Q101

Interior Gesture Control : Switch mode power supply, Current Sensing

Shunt

Product Name	Status	Description	Features	Package	Q-Level
WSLP		Power Metal Strip® Resistors, Very High Power (to 3 W), Low Value down to 0.0005#	0.0005Ohm up to 0.1Ohm TCR <25ppm/°C Low thermal EMF <3μV/°C	SMD 'EIA 0603...2512	

Interior Gesture Control : Switch mode power supply, EMI Filtering

Inductor

Product Name	Status	Description	Features	Package	Q-Level
IHLP1616BZ-1A		Low Profile, High Current, High Transient Current Spike Capable, Shielded, Low DCR	0,1uH...1uH, Idc=12A...4.5	SMD 1616	
IHLP2020BZ-1A		Low Profile, High Current, High Transient Current Spike Capable, Shielded, Low DCR	0,1uH...10uH, Idc=25A...2.25A	SMD 2020	
IHLP2525EZ-01		Low Profile, High Current, High Transient Current Spike Capable, Shielded, Low DCR	0,1uH...4.7uH Idc=18A...3A		

Interior Gesture Control : Switch mode power supply, Rectification

Schottky Diode

Product Name	Status	Description	Features	Package	Q-Level
SS2P4		High Current Density SMD Schottky Barrier Rectifier Very low profile - typical height 1.0 mm	If=2A; Vf=0.5V; Vrrm=40V Low forward voltage drop low power losses	SMD DO-220AA SMP	

Interior Gesture Control : Switch mode power supply, Switch

Mosfet

Product Name	Status	Description	Features	Package	Q-Level
SQS840EN	NEW	N-Channel 40-V (D-S) 175°C MOSFET	Rdson=16,6mOhm 100 % Rg and UIS tested low FOM	SMD PPAK 1212-8	AEC-Q101