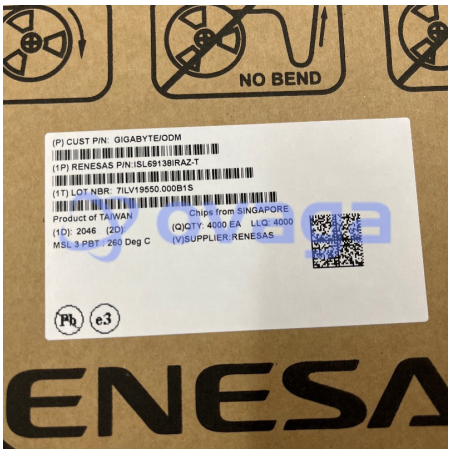
ISL69138IRAZ-T

Data Sheet

Digital, Dual Output, 7-Phase Configurable, VR13/IMVP8 PWM Controller

Manufacturers	Renesas Technology Corp
Package/Case	48pin-QFN
Product Type	Power Management ICs
RoHS	
Lifecycle	



Images are for reference only

Please submit RFQ for ISL69138IRAZ-T or Email to us: sales@ovaga.com We will contact you in 12 hours. RFQ

General Description

The ISL69138 is a digital, dual output, flexible, multiphase (X+Y ≤ 7) PWM controller designed to be compliant with Intel VR13 and IMVP8 specifications. The controller can be configured to support any desired phase assignments up to a maximum of seven phases across the two outputs (X and Y). For example, 6+1, 5+2, 4+2, 3+3, 3+2, or even single output operation as a 7+0 configuration. The ISL69138, with a flexible X+Y ≤ 7 phase assignment, supports the SVID interface along with PMBus 1.3, making it ideal for controlling the microprocessor core, memory, and system rails for Intel VR13 or IMVP8 platforms.The ISL69138 uses the Renesas proprietary digital, linear, synthetic, current modulation scheme to achieve the industry's best combination of transient response and ease of tuning while addressing the challenges of powering the latest generation of Intel microprocessors. Device configuration and monitoring are accomplished using the intuitive PowerNavigator™ software. Diode emulation and automatic phase add/drop features allow the user to extract maximum efficiency from the converter regardless of load conditions.The ISL69138 supports a comprehensive fault management system to enable the design of highly reliable systems. From a multi-tiered overcurrent protection scheme to the configurable power-good and catastrophic fault protection flags, almost any need is accommodated.With minimal external components, easy configuration, robust fault management, and highly accurate regulation capability, implementing a high-performance, multiphase regulator has never been easier.

Features

Advanced linear digital modulation scheme

Zero latency synthetic current control for excellent high-frequency current balance

Auto phase add/drop with a boot refresh function for excellent load vs efficiency profile

Dual edge modulation for faster transient response

Excellent Dynamic Voltage Identification (DVID) performance

Flexible phase assignment from 0 to 7 phases per output

Up to 1MHz switching frequency operation for high-density designs

Diode braking for overshoot reduction

Diode emulation for enhanced light-load efficiency

Differential remote voltage sensing supports ±0.5% closed-loop system accuracy over load, line, and temperature

Highly accurate current sensing for excellent load line regulation and accurate OCP

Supports ISL99227 60A smart power stage

Supports DCR sense with integrated temperature compensation

Supports phase doubler (ISL6617A) for up to 14-phase operation

Comprehensive fault management enables high-reliability systems

Pulse-by-pulse phase current limiting

Total output current protection

Output and input OV/UV protection

Open voltage sense detect

Black box recording capability for faults

Configurable Catastrophic Failure Protection (CFP) flag output

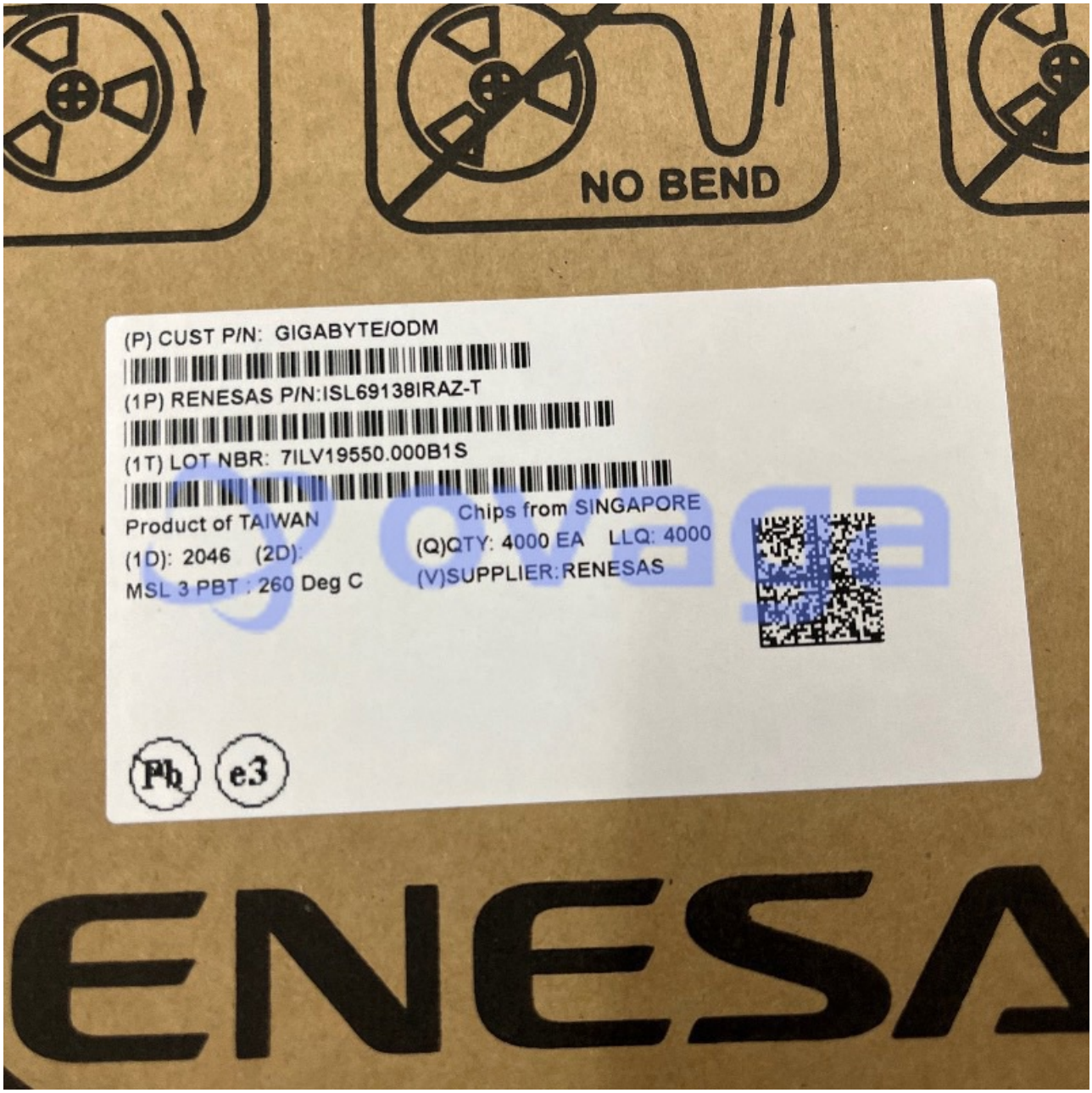
Intuitive configuration usingPowerNavigator

SMBus/PMBus V1.3 compatible

Up to 2MHz bus interface

NVM to store up to 8 configurations

Pb-free (RoHS compliant)


NO BEND
(P) CUST P/N: GIGABYTE/ODM
(1P) RENESAS P/N:ISL69138IRAZ-T
(1T) LOT NBR: 7ILV19550.000B1S
Product of TAIWAN
Chips from SINGAPORE
(1D): 2046 (2D):
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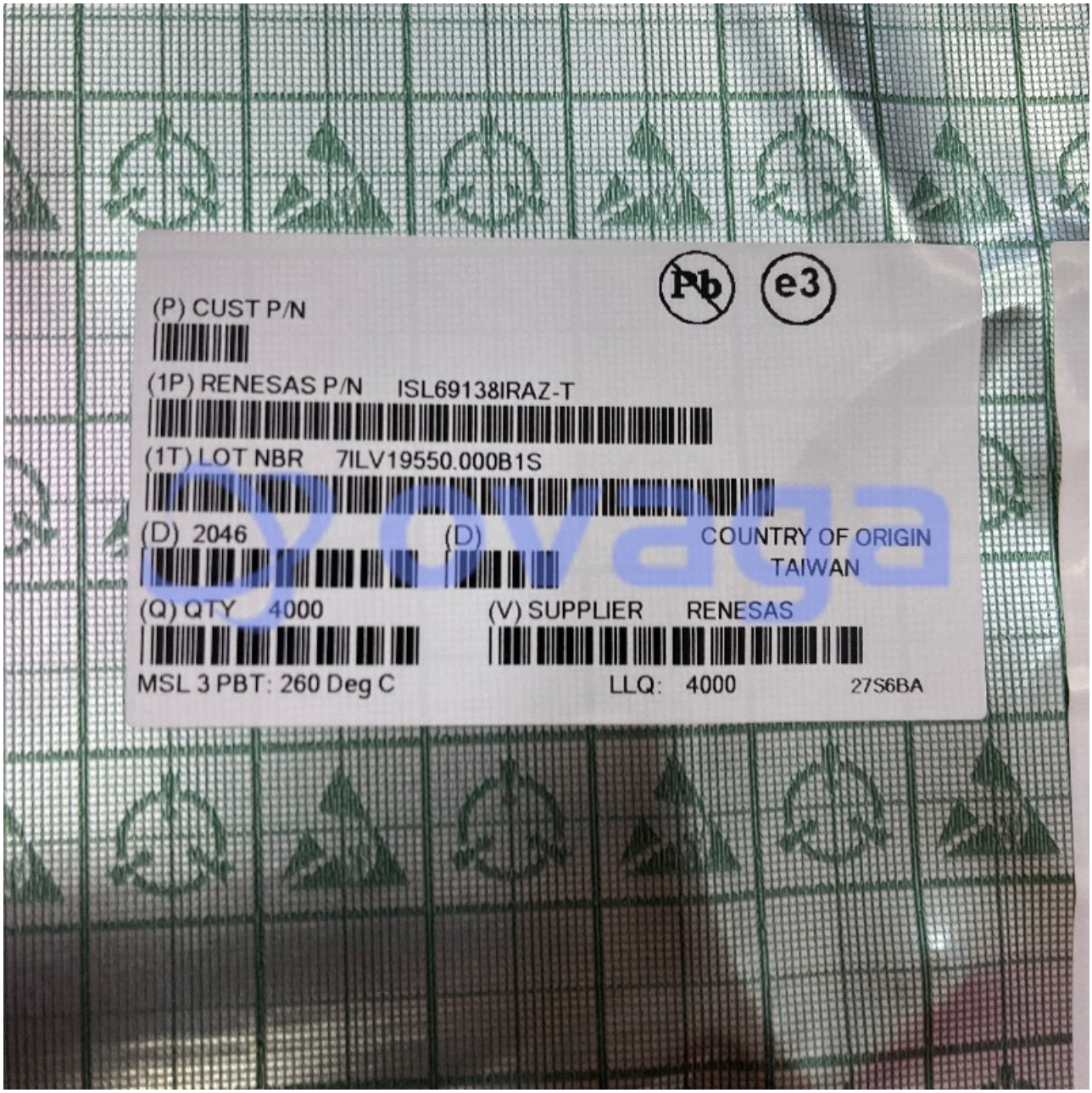
MSL 3 PBT : 260 Deg C
(V)SUPPLIER:RENESAS
Pb
e3
RENESA



Related Products

[ISL6262ACRZ](#)

Renesas Technology Corp

QFN-48

[ISL6294IRZ-T](#)

Renesas Technology Corp

QFN-8

[ISL21080CIH315Z-TK](#)

Renesas Technology Corp

SOT-23-3

[ISL6506BCBZ](#)

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SOP-8

[ISL6377HRZ-T]

Renesas Technology Corp

QFN-48

[ISL62771HRTZ-T]

Renesas Technology Corp

40-WFQFN Exposed Pad

[ISL62771HRTZ]

Renesas Technology Corp

QFN40

[ISL95808HRZ-T]

Renesas Technology Corp

DFN-8