Precision Voltage Reference for Automotive

Features

- Qualified for Automotive Applications
  - AEC-Q100 Grade 1, TA: −40°C to +125°C
- Wide Input Voltage Range: 3 V to 36 V
- Fixed Output Voltage:
  - 1.25 V, 2.048 V, 2.5 V, 3 V, 3.3 V, 4.096 V, 5 V
- High Initial Accuracy:
  - Basic Series: 0.1% Maximum
  - E Series: 0.05% Maximum
- Low Temperature Coefficient
  - Basic Series: 15 ppm/°C Maximum
  - E Series: 10 ppm/°C Maximum
- Low Output Noise: 10 μVpp/V
- Low Power Consumption
  - Quiescent Current: 240 μA Maximum
  - Shutdown Current: 10 μA Maximum
- Stable with 0.1 to 100 μF Capacitive Loads
- Package Options:
  - SOT23-6
  - MSOP8
  - SOT23G-3

Applications

- Automotive ADAS, Surround-View Cameras
- Automotive Power Train, Transmission
- Automotive Battery Management System

Description

The TPR36Q series is a family of high-precision and low-temperature-drift voltage references designed for automotive applications. The TPR36Q supports a wide operating voltage range from 3 V to 36 V, with an absolute maximum rating of 45 V. It can support both sinking current and sourcing current of 10 mA with a low dropout voltage.

The TPR36Q operates with an initial accuracy of 0.1% and a temperature coefficient of 10 ppm/°C and 15 ppm/°C. The high precision feature makes the TPR36Q series an ideal voltage reference in the high-resolution automotive systems.

The TPR36Q provides SOT23-6, MSOP8, and SOT23G-3 packages with a wide range of output voltages. All the TPR36Q parts are qualified with AEC-Q100 Grade 1 with the ambient temperature range from –40°C to +125°C.

Typical Application Circuit

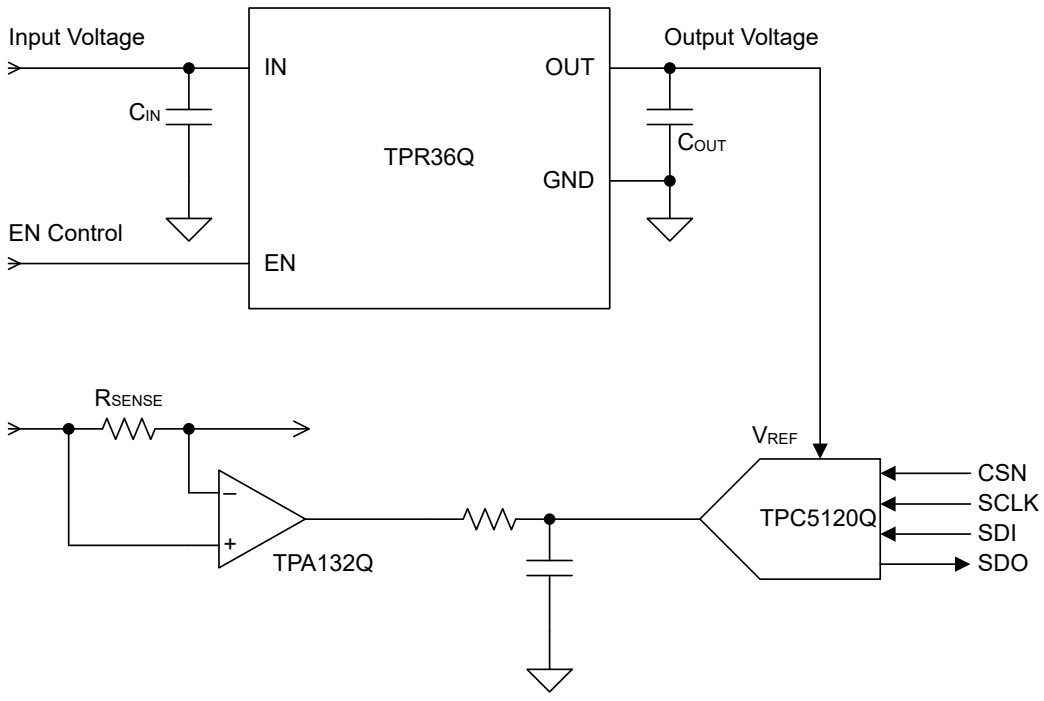


Table of Contents

Features **1**
Applications **1**
Description **1**
Typical Application Circuit **1**
Product Family Table **3**
Revision History **3**
Pin Configuration and Functions **4**
Specifications **5**
Absolute Maximum Ratings (1) (2) (3) 5
ESD, Electrostatic Discharge Protection 5
Recommended Operating Conditions 5
Thermal Information 5
Electrical Characteristics 6
Typical Performance Characteristics 8
Detailed Description **11**
Overview 11
Functional Block Diagram 11
Feature Description 12
Application and Implementation **13**
Typical Application 13
Tape and Reel Information **15**
Package Outline Dimensions **17**
SOT23-6 17
MSOP8 18
SOT23G-3 19
Order Information **20**
IMPORTANT NOTICE AND DISCLAIMER **23**

Product Family Table

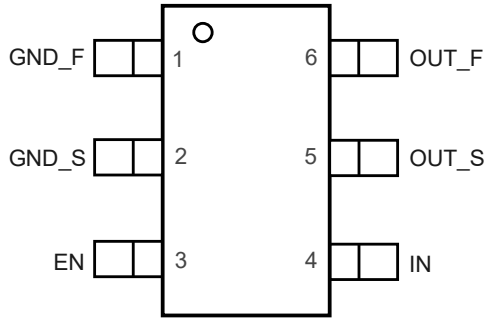
Order Number	Output Voltage (V)	Package
TPR36xxQ-S6TR-S	1.25/2.048/2.5/3/3.3/4.096/5	SOT23-6
TPR36xxQ-VS1R-S	1.25/2.048/2.5/3/3.3/4.096/5	MSOP8
TPR36ExxQ-S6TR-S	1.25/2.048/2.5/3/3.3/4.096/5	SOT23-6
TPR36ExxQ-VS1R-S	1.25/2.048/2.5/3/3.3/4.096/5	MSOP8
TPR36xxQ-3STR-S	1.25/2.048/2.5/3/3.3/4.096/5	SOT23G-3
TPR36ExxQ-3STR-S	1.25/2.048/2.5/3/3.3/4.096/5	SOT23G-3

Revision History

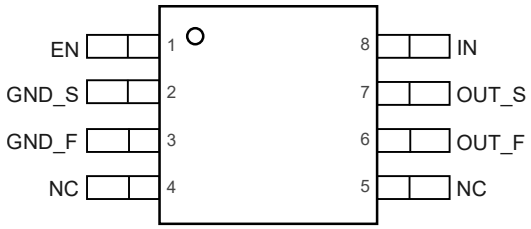
Date	Revision	Notes
2026-06-15	Rev.A.0	Initial release.

Pin Configuration and Functions

TPR36Q
SOT23-6 Package
Top View



TPR36Q
MOP8 Package
Top View



TPR36Q
SOT23G-3 Package
Top View

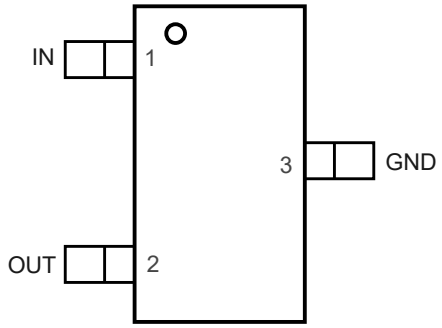


Table 1. Pin Functions: TPR36Q

Pin No.			Name	I/O	Description
SOT23-6	MSOP8	SOT23G-3			
3	1	-	EN	I	Enable pin. Pull this pin high for normal operation and pull this pin low to enter the shutdown mode.
1	3	3	GND_F	–	Ground reference force pin.
2	2	3	GND_S	–	Ground reference sense pin.
4	8	1	IN	I	Supply voltage input pin.
–	5, 6	-	NC	–	No connection.
6	6	2	OUT_F	O	Reference voltage output force pin.
5	7	2	OUT_S	O	Reference voltage output sense pin.

Specifications

Absolute Maximum Ratings (1) (2) (3)

Parameter		Min	Max	Unit
V_{IN}	Supply Voltage	–0.3	40	V
V_{EN}	Enable Voltage	–0.3	40	V
V_{OUT}	Output Voltage	–0.3	6	V
T_J	Junction Temperature Range	−40	150	°C
T_A	Operating Temperature Range	−40	125	°C
T_{STG}	Storage Temperature Range	−65	150	°C
T_L	Lead Temperature (Soldering 10 sec)		260	°C

(1) Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. Exposure to any Absolute Maximum Rating condition for extended periods may affect device reliability and lifetime.
(2) All voltage values are with respect to GND.
(3) Specified by design. Not subject to production test.

ESD, Electrostatic Discharge Protection

Symbol	Parameter	Condition	Minimum Level	Unit
HBM	Human Body Model ESD	AEC Q100-002 (1)	±2	kV
CDM	Charged Device Model ESD	AEC Q100-011	±1	kV

(1) AEC Q100-002 indicates that HBM stress should conform to the ANSI/ESDA/JEDEC JS-001 specification.

Recommended Operating Conditions

Parameter		Min	Max	Unit
V_{IN}	Supply Voltage	3	36	V
V_{EN}	Enable Voltage	0	V_{IN}	V
I_{OUT}	Output Current	−10	10	mA
T_A	Operating Temperature Range	−40	125	°C

Thermal Information

Package Type	θ_{JA}	$\theta_{JC,TOP}$	θ_{JB}	Unit
SOT23-6	150	110	60	°C/W
MSOP8	138	54	84	°C/W
SOT23G-3	250	81	42	°C/W

Electrical Characteristics

All test condition: V_{IN} = $V_{IN(MIN)}$ (1), I_{OUT} = 0, C_{IN} = 0.1 µF, C_{OUT} = 10 µF, minimum and maximum specifications at T_A = –40°C to 125°C; Typical specifications at T_A = 25°C, unless otherwise noted.

Parameter		Conditions	Min	Typ	Max	Unit
Output Voltage						
V_{OUT}	Output Voltage	TPR3612Q, TPR36E12Q		1.25		V
		TPR3620Q, TPR36E20Q		2.048		V
		TPR3625Q, TPR36E25Q		2.5		V
		TPR3630Q, TPR36E30Q		3		V
		TPR3633Q, TPR36E33Q		3.3		V
		TPR3640Q, TPR36E40Q		4.096		V
		TPR3650Q, TPR36E50Q		5		V
	Initial Accuracy	Basic series, T_A = 25 °C (1)	−0.1%		+0.1%	
		E Series, T_A = 25 °C(1)	−0.05%		+0.05%	
	Output Noise	f = 0.1 Hz to 10 Hz		10		$\mu V_{PP}/V$
Input Voltage and Current						
V_{IN}	Input Voltage (1)		$V_{IN,MIN}$		36	V
I_Q	Quiescent Current	T_A = 25 °C		140	170	µA
		T_A = -40°C to 125°C		140	190	µA
I_{SD}	Shutdown Current	Vin = Vinmin, T_A = 25°C		2.3	5	µA
		Vin = Vinmin, T_A = -40°C to 125°C			5.5	µA
		Vin = 36V, T_A = -40°C to 125°C			15	µA
Enable Voltage and Current						
$V_{IH,EN}$	EN Logic-High Level		1.6		V_{IN}	V
$V_{IL,EN}$	EN Logic-Low Level		0		0.5	V
I_{EN}	EN Leakage Current	V_{EN} = V_{IN} = 36 V			0.8	µA
Dropout Voltage						
V_{DO}	Minimum Dropout Voltage	I_{OUT} = ±1 mA, T_A = 25 °C			50	mV
		I_{OUT} = ±1 mA, T_A = -40°C to 125°C			100	mV
		I_{OUT} = ±10 mA, T_A = 25 °C			250	mV
		I_{OUT} = ±10 mA, T_A = -40°C to 125°C			500	mV
Output Voltage Temperature Drift						
TC	Temperature Coefficient	T_A = 0 to 70°C			10	ppm/°C
		E Series, T_A = −40°C to 125°C			10	ppm/°C
		Basic series, T_A = −40°C to 125°C			15	ppm/°C
Output Regulation						

Parameter		Conditions	Min	Typ	Max	Unit
$\frac{\Delta V_{OUT}}{\Delta V_{IN}}$	Line Regulation	V_{IN} = $V_{IN(MIN)}$ to 36 V, T_A = 25 °C		0.2	4	ppm/V
		V_{IN} = $V_{IN(MIN)}$ to 36 V, T_A = -40°C to 125°C		1	5	ppm/V
$\frac{\Delta V_{OUT}}{\Delta I_{OUT}}$	Load Regulation	V_{IN} = $V_{IN(MIN)}$, –10 mA < I_{OUT} < 10 mA, TA = 25 °C		1	10	ppm/mA
		V_{IN} = $V_{IN(MIN)}$, –10 mA < I_{OUT} < 10 mA, TA = -40°C to 125°C		1	20	ppm/mA
Thermal Hysteresis						
THYS	Thermal Hysteresis	Cycle 1 (+25°C to +125°C to −40°C to 25 °C)		80		ppm
		Cycle 2 (+25°C to +125°C to −40°C to 25 °C)		40		ppm
		Cycle 1 (+25°C to +70°C to 0°C to 25 °C)		40		ppm
		Cycle 2 (+25°C to +70°C to 0°C to 25 °C)		20		ppm
Long-Term Stability						
LTS	Long-Term Stability	SOT23-6, 1000 hours		50		ppm
		SOT23-6, 2000 hours		50		ppm
		MSOP8, 1000 hours		50		ppm
		MSOP8, 2000 hours		50		ppm
Turn-On Settling Time						
t_{ON}	Turn-on Settling Time	C_{OUT} = 1 µF		1000		µs
Short-Circuit Current						
I_{SC}	Short-Circuit Current	V_{OUT} = 0, T_A = 25°C		18	22	mA
Capacitive Load						
C_{OUT}			0.1		100	µF

(1) $V_{IN(MIN)}$ = $V_{OUT(NOM)}$ + 0.5 V or 3 V, whichever is greater

Typical Performance Characteristics

All test conditions: V_{IN} = $V_{IN,MIN}$, T_A = +25°C, unless otherwise noted.

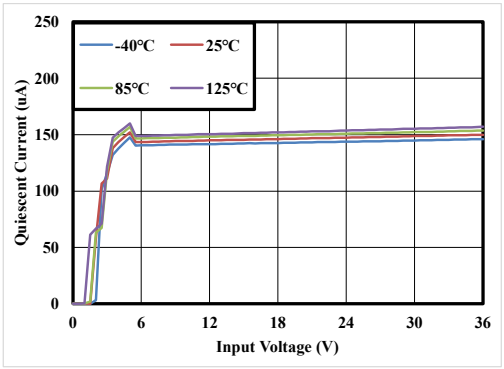


Figure 1. iq vs. Input voltage

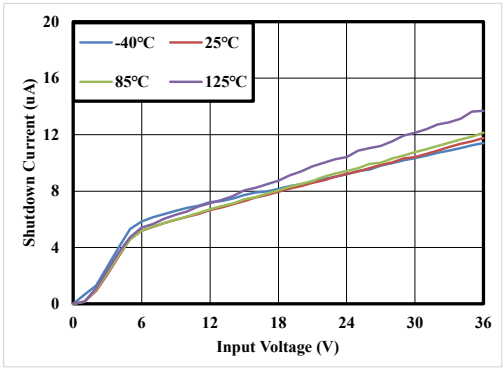


Figure 2. Shutdown Current vs. Input Voltage

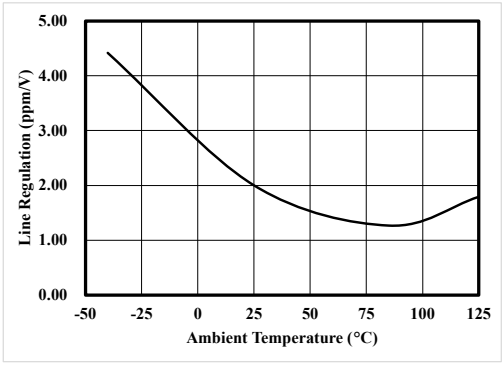


Figure 3. Line Regulation

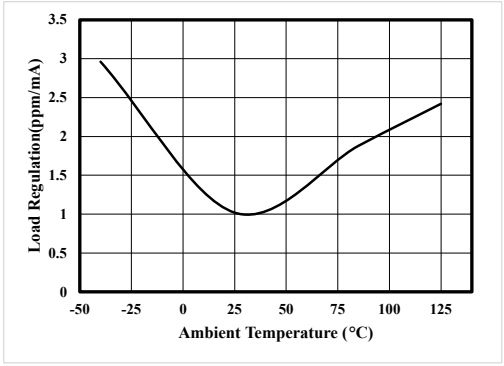


Figure 4. Load Regulation (source current)

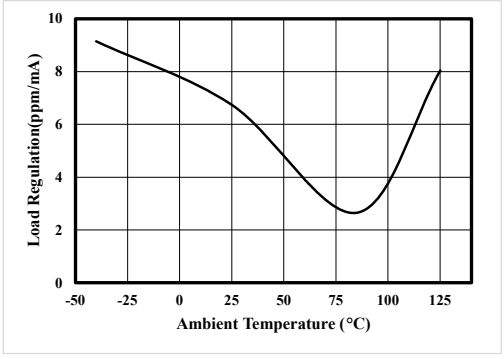


Figure 5. Load Regulation (sink current)

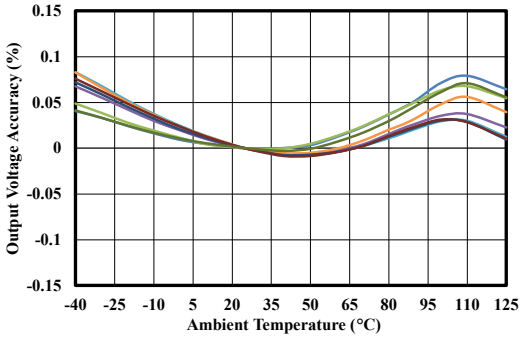


Figure 6. Output Voltage vs. Temperature

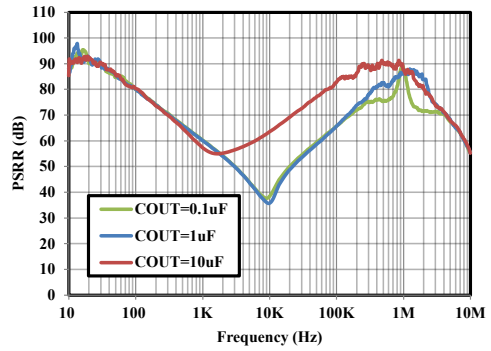


Figure 7. PSRR vs. Frequency

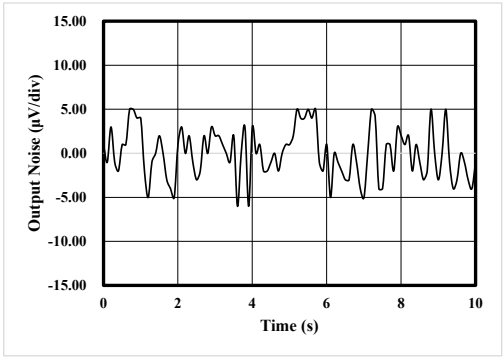


Figure 8. Output Voltage Noise (0.1 Hz to 10 Hz)

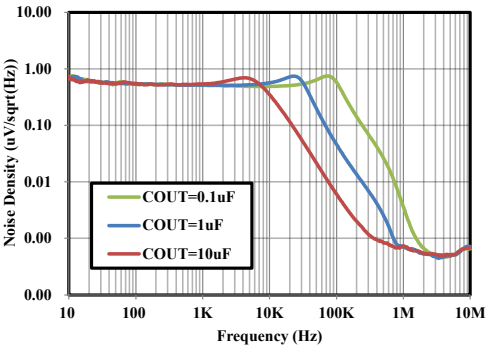


Figure 9. Output Noise Spectral Density

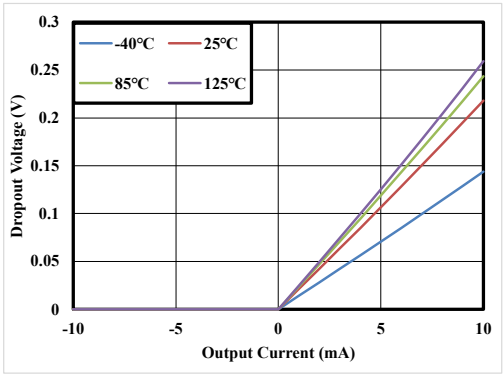


Figure 10. Dropout Voltage vs. Load Current

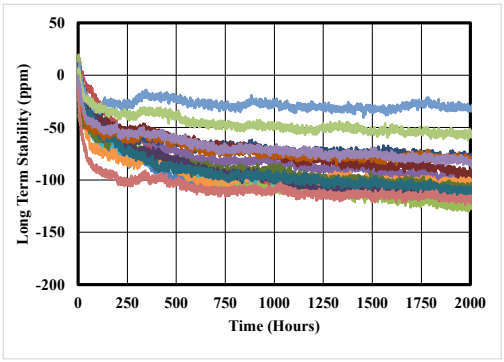


Figure 11. Long Term Stability (2000 hours)

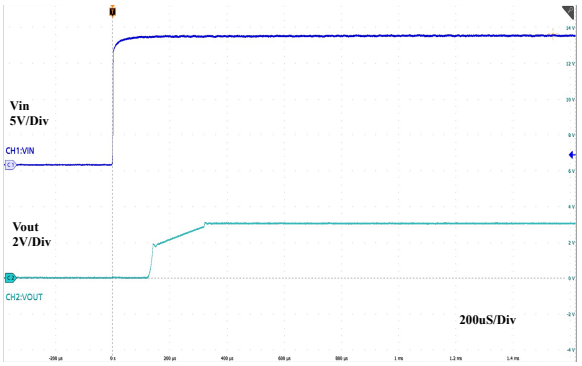


Figure 12. Start Up Time (COUT=1uF)

Figure 13. EN Power On

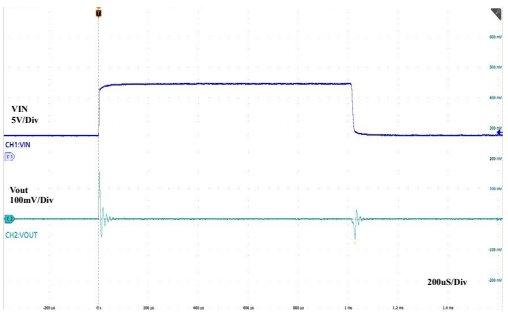


Figure 14. Line Transient

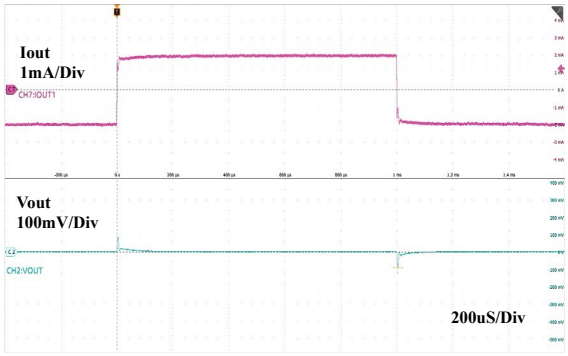


Figure 15. Load Transient

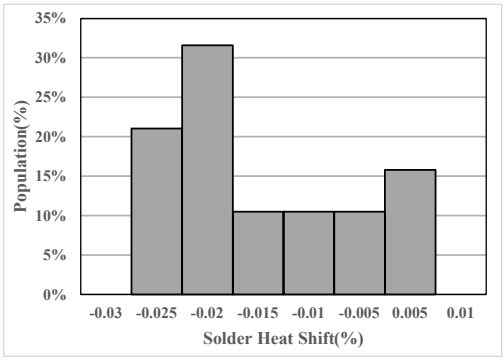


Figure 16. Solder Heat Shift (1)

(1) Higher shifts are also possible depending on the size, thickness, and material of the printed circuit board.

Detailed Description

Overview

The TPR36Q is a precision voltage reference intended for high-accuracy analog applications. It combines a temperature-compensated bandgap core, trim network, and a low-output-impedance buffer to achieve high initial accuracy, low temperature drift, and low noise. The output can both source and sink load current while maintaining tight regulation, making the device well suited for precision instruments, data acquisition, battery monitoring, and automotive sensing systems.

Functional Block Diagram

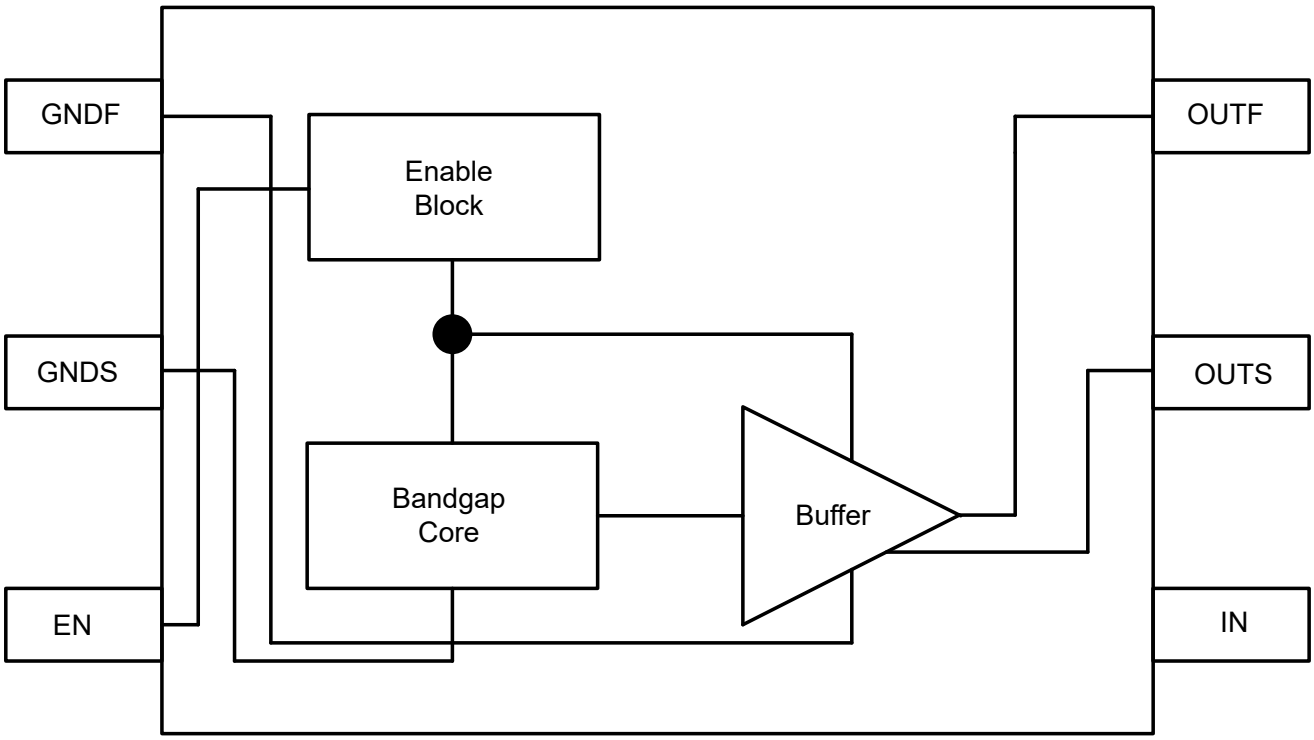


Figure 17. Functional Block Diagram

Feature Description

Wide-Range Supply Voltage (VIN)

The TPR36Q uses the VIN pin to power up the internal circuitry with a supply voltage ranging from 3 V to 36 V, and it has an extremely low dropout voltage. Under loaded conditions, the typical relationship between dropout voltage and load current is shown in the Typical Performance Characteristics section.

Operating Modes (EN, SLEEP):

The TPR36Q supports three distinct operating modes based on the status of the EN pins.

Normal Operation Mode:

When both EN pins are driven high, the device operates in Normal Mode. Typically, the EN pin can be connected to the IN pin to enable the output.

Low-IQ Sleep Mode:

In Sleep Mode, the EN pin is driven low, achieving a typical low current consumption of 10 μA max.

4-Wire Kelvin Connections

Current through a PCB trace creates an IR drop, which can become several μV on longer traces and directly add error to the reference output. For best accuracy, place the reference as close to the load as possible to minimize output trace length. When close placement is not practical, use force and sense (Kelvin) connections to reduce trace-induced voltage drop and improve output accuracy. Kelvin connections work by providing a set of high impedance voltage-sensing lines to the output and ground nodes. Because very little current flows through these connections, the IR drop across their traces is negligible, and the output and ground voltage information can be obtained with minimum IR drop errors.

Application and Implementation

Note

Information in the following application sections is not part of the 3PEAK's component specification and 3PEAK does not warrant its accuracy or completeness. 3PEAK's customers are responsible for determining suitability of components for their purposes. Customers should validate and test their design implementation to confirm system functionality.

Typical Application

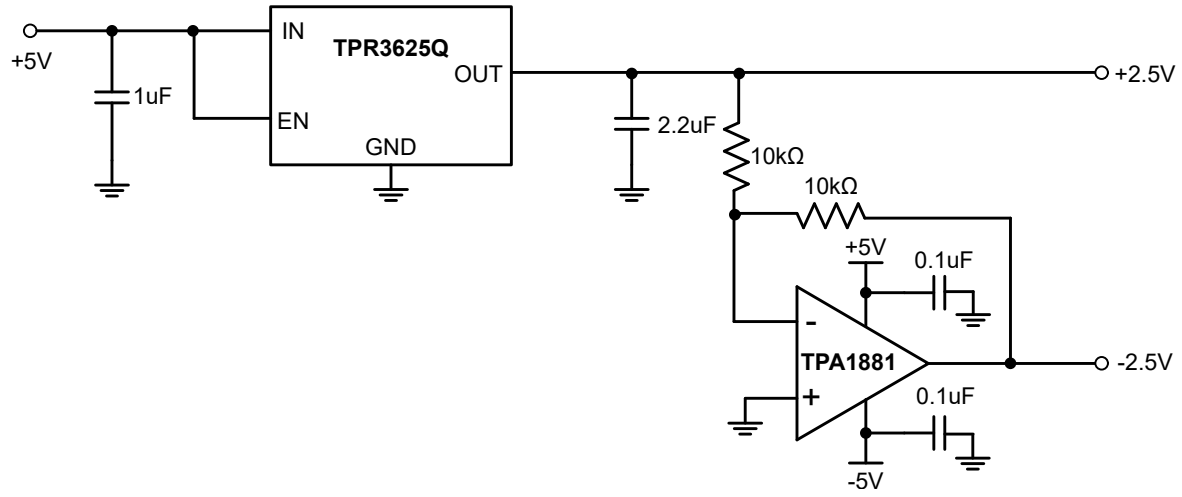
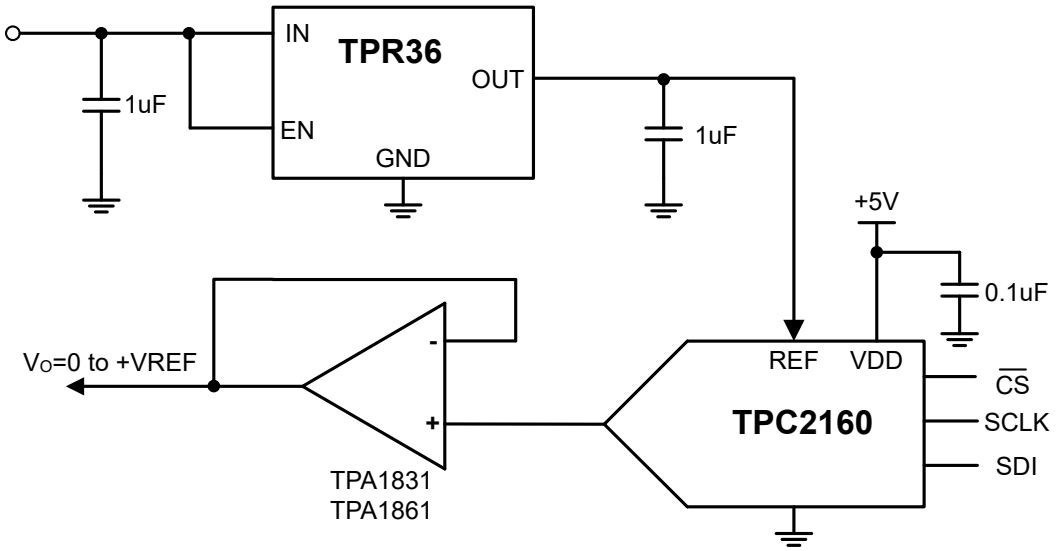


Figure 18. Typical Application Circuit

Negative Reference Voltage

For applications requiring both positive and negative reference voltages, the TPR36Q, together with the TPA1881, can generate a split-supply reference from a 5-V supply. In this configuration, the TPR36Q provides a 2.5-V reference, while its low drift performance, combined with the low offset and zero-drift characteristics of the TPA1881, enables a precise solution for dual-supply systems. For best accuracy, two 10kohm resistors should have closely matched temperature coefficients.

16-Bit, Data Acquisition System

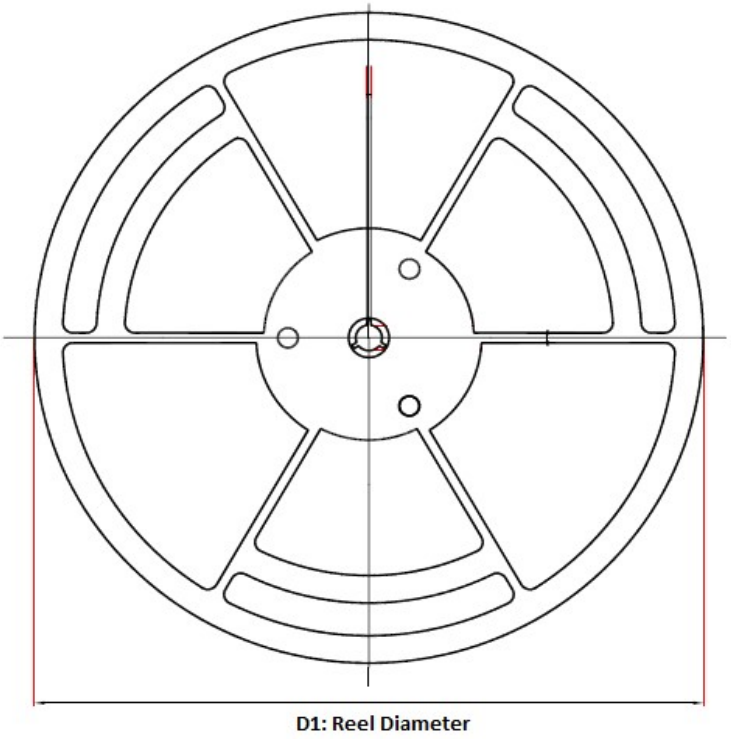


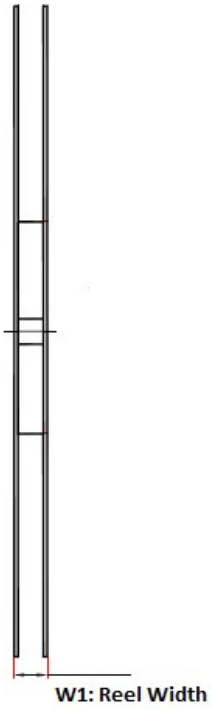
TPR36Q is a precision voltage reference intended for systems requiring low temperature drift, low output noise, and high long-term stability. In precision data-conversion and instrumentation applications, the reference source directly determines the achievable gain accuracy, offset stability, and overall system repeatability. For these applications, the reference device should be isolated from dynamic digital load currents and buffered when external loading is required. In this configuration, the TPR36Q output is connected to the REF input of the TPC2160. The same reference node is buffered by the operational amplifier, and the buffered output is available as the system output voltage. It provides a high-accuracy reference voltage for the unipolar output mode of the TPC2160.

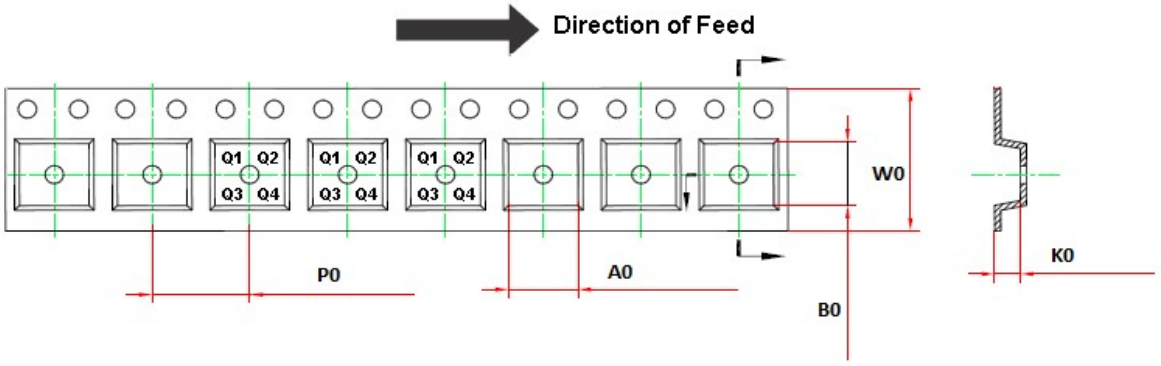
Input Capacitors Selection: The TPR36Q requires one or more input decoupling capacitors to reduce the input voltage noise in actual applications. The input decoupling capacitor should be placed as close as possible to the IN pin to improve transient response. Usually, the optimal configuration of decoupling capacitors is a combination of 1 μF and 0.1 μF. The large 1-μF capacitor can be used to stabilize the input voltage, and the small 0.1-μF capacitor can filter out high-frequency noise.

Output Capacitors Selection: Best performance and stability are achieved with low-ESR, low-inductance ceramic capacitors such as X5R or X7R. When an electrolytic capacitor is used at the output, place a 0.1-μF ceramic capacitor in parallel to lower the effective output ESR. Additionally, a CL with larger capacitance and lower ESR will help increase high-frequency PSRR and improve load transient response.

Tape and Reel Information







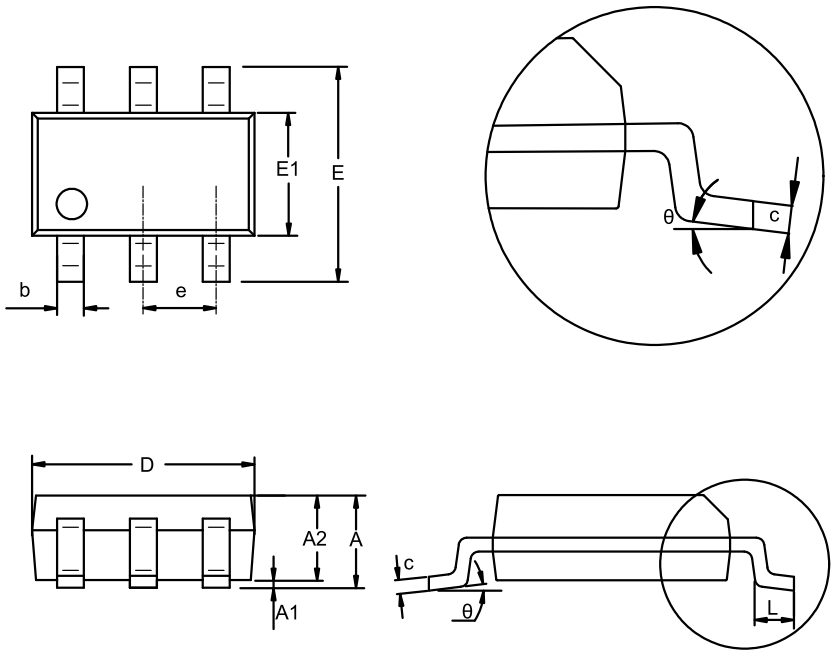
Order Number	Package	D1 (mm)	W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	W0 (mm)	Pin1 Quadrant
TPR3612Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3620Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3625Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3630Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3633Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3640Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3650Q-S6TR-S	SOT23-6	180	12	3.3	3.2	1.4	4	8	Q3
TPR3612Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1

Order Number	Package	D1 (mm)	W1 (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	W0 (mm)	Pin1 Quadrant
TPR3620Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR3625Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR3630Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR3633Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR3640Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR3650Q-VS1R-S	MSOP8	330	17.6	5.3	3.4	1.3	8	12	Q1
TPR36xxQ-3STR-S	SOT23G-3	178	13.1	3.15	2.77	1.22	4	8	Q3

Package Outline Dimensions

SOT23-6

Package Outline Dimensions S6T(SOT23-6-A)



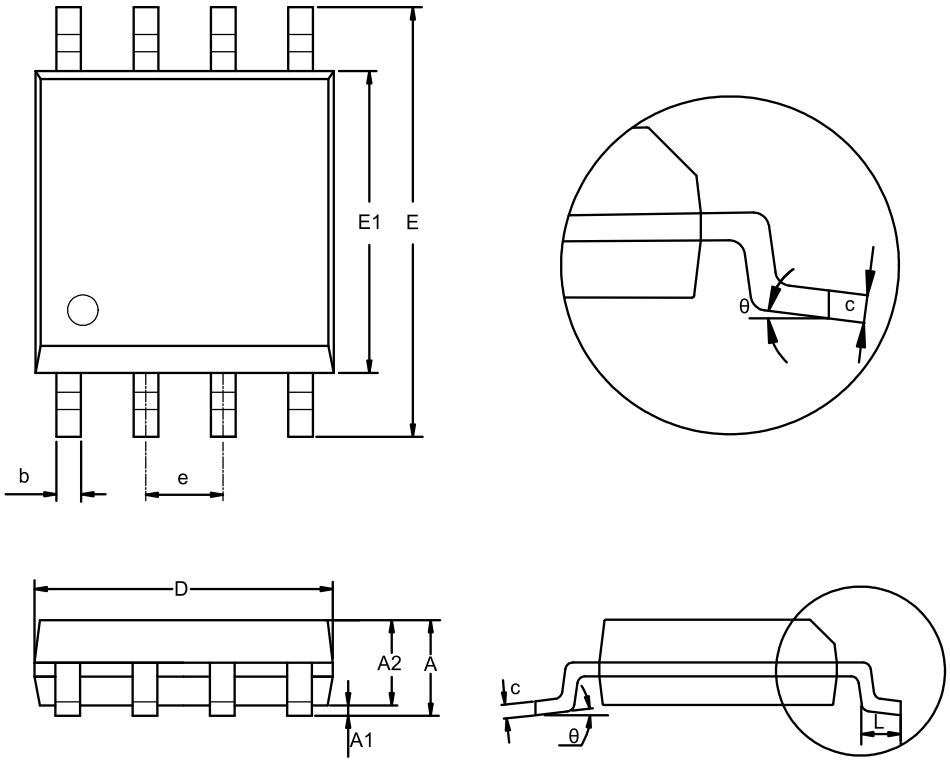
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	1.050	1.250	0.041	0.049
A1	0.000	0.150	0.000	0.006
A2	1.000	1.200	0.039	0.047
b	0.280	0.500	0.011	0.020
c	0.100	0.230	0.004	0.009
D	2.820	3.020	0.111	0.119
E	2.600	3.000	0.102	0.118
E1	1.500	1.720	0.059	0.068
e	0.950 BSC		0.037 BSC	
L	0.300	0.600	0.012	0.024
θ	0	8°	0	8°

NOTES

1. Do not include mold flash or protrusion.
2. This drawing is subject to change without notice.
3. Reference JEDEC MO-178.

MSOP8

Package Outline Dimensions VS1(MSOP-8-A)



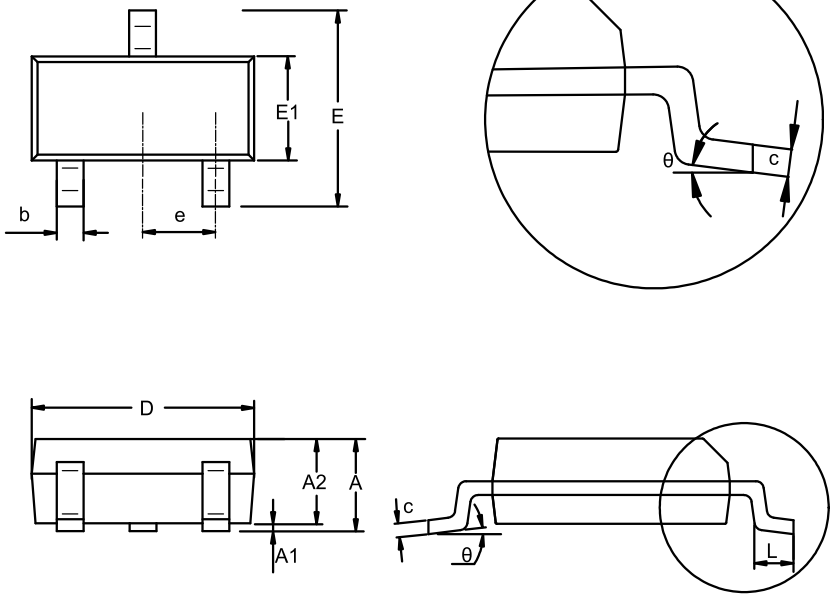
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.800	1.100	0.031	0.043
A1	0.020	0.150	0.001	0.006
A2	0.750	0.950	0.030	0.037
b	0.250	0.380	0.010	0.015
c	0.090	0.230	0.004	0.009
D	2.900	3.100	0.114	0.122
E	4.700	5.100	0.185	0.201
E1	2.900	3.100	0.114	0.122
e	0.650 BSC		0.026 BSC	
L	0.400	0.800	0.016	0.031
θ	0	8°	0	8°

NOTES

1. Do not include mold flash or protrusion.
2. This drawing is subject to change without notice.

SOT23G-3

Package Outline Dimensions 3ST(SOT23G-3-A)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	MIN	MAX	MIN	MAX
A	0.890	1.120	0.035	0.044
A1	0.000	0.100	0.000	0.004
A2	0.890	1.100	0.035	0.043
b	0.300	0.500	0.012	0.020
c	0.132	0.230	0.005	0.009
D	2.800	3.000	0.110	0.118
E	2.250	2.640	0.089	0.104
E1	1.200	1.400	0.047	0.055
e	0.950 BSC		0.037 BSC	
L	0.300	0.600	0.012	0.024
θ	0	8°	0	8°

NOTES

1. Do not include mold flash or protrusion.
2. This drawing is subject to change without notice.

Order Information

Order Number	Operating Temperature Range	Package	Marking Information	MSL	Transport Media, Quantity	Eco Plan
TPR3612Q-S6TR-S	−40 to 125°C	SOT23-6	R8A	MSL1	3,000	Green
TPR3620Q-S6TR-S	−40 to 125°C	SOT23-6	R8B	MSL1	3,000	Green
TPR3625Q-S6TR-S	−40 to 125°C	SOT23-6	R8C	MSL1	3,000	Green
TPR3630Q-S6TR-S	−40 to 125°C	SOT23-6	R8D	MSL1	3,000	Green
TPR3633Q-S6TR-S	−40 to 125°C	SOT23-6	R8E	MSL1	3,000	Green
TPR3640Q-S6TR-S	−40 to 125°C	SOT23-6	R8F	MSL1	3,000	Green
TPR3650Q-S6TR-S	−40 to 125°C	SOT23-6	R8G	MSL1	3,000	Green
TPR3612Q-VS1R-S	−40 to 125°C	MSOP8	R3612	MSL1	3,000	Green
TPR3620Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3620	MSL1	3,000	Green
TPR3625Q-VS1R-S	−40 to 125°C	MSOP8	R3625	MSL1	3,000	Green
TPR3630Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3630	MSL1	3,000	Green
TPR3633Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3633	MSL1	3,000	Green
TPR3640Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3640	MSL1	3,000	Green
TPR3650Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3650	MSL1	3,000	Green
TPR3612Q-3STR-S	−40 to 125°C	SOT23G-3	R8A	MSL1	3,000	Green
TPR3620Q-3STR-S	−40 to 125°C	SOT23G-3	R8B	MSL1	3,000	Green
TPR3625Q-3STR-S	−40 to 125°C	SOT23G-3	R8C	MSL1	3,000	Green
TPR3630Q-3STR-S	−40 to 125°C	SOT23G-3	R8D	MSL1	3,000	Green
TPR3633Q-3STR-S	−40 to 125°C	SOT23G-3	R8E	MSL1	3,000	Green
TPR3640Q-3STR-S	−40 to 125°C	SOT23G-3	R8F	MSL1	3,000	Green

Order Number	Operating Temperature Range	Package	Marking Information	MSL	Transport Media, Quantity	Eco Plan
TPR3650Q-3STR-S	−40 to 125°C	SOT23G-3	R8G	MSL1	3,000	Green
TPR36E12Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8A	MSL1	3,000	Green
TPR36E20Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8B	MSL1	3,000	Green
TPR36E25Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8C	MSL1	3,000	Green
TPR36E30Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8D	MSL1	3,000	Green
TPR36E33Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8E	MSL1	3,000	Green
TPR36E40Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8F	MSL1	3,000	Green
TPR36E50Q-S6TR-S(1)	−40 to 125°C	SOT23-6	R8G	MSL1	3,000	Green
TPR36E12Q-VS1R-S(1)	−40 to 125°C	MSOP8	R3612	MSL1	3,000	Green
TPR36E20Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3620	MSL1	3,000	Green
TPR36E25Q-VS1R-S(1)	−40 to 125°C	MSOP8	R3625	MSL1	3,000	Green
TPR36E30Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3630	MSL1	3,000	Green
TPR36E33Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3633	MSL1	3,000	Green
TPR36E40Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3640	MSL1	3,000	Green
TPR36E50Q-VS1R-S (1)	−40 to 125°C	MSOP8	R3650	MSL1	3,000	Green
TPR36E12Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8A	MSL1	3,000	Green
TPR36E20Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8B	MSL1	3,000	Green
TPR36E25Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8C	MSL1	3,000	Green
TPR36E30Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8D	MSL1	3,000	Green
TPR36E33Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8E	MSL1	3,000	Green
TPR36E40Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8F	MSL1	3,000	Green
TPR36E50Q-3STR-S(1)	−40 to 125°C	SOT23G-3	R8G	MSL1	3,000	Green

(1) For future products, contact the 3PEAK factory for more information and samples.

Green: 3PEAK defines "Green" to mean RoHS compatible and free of halogen substances.

IMPORTANT NOTICE AND DISCLAIMER

Trademarks. Any of the 思瑞浦 or 3PEAK trade names, trademarks, graphic marks, and domain names contained in this document /material are the property of 3PEAK. You may NOT reproduce, modify, publish, transmit or distribute any Trademark without the prior written consent of 3PEAK.

Performance Information. Performance tests or performance range contained in this document/material are either results of design simulation or actual tests conducted under designated testing environment. Any variation in testing environment or simulation environment, including but not limited to testing method, testing process or testing temperature, may affect actual performance of the product.

Disclaimer. 3PEAK provides technical and reliability data (including data sheets), design resources (including reference designs), application or other design recommendations, networking tools, security information and other resources "As Is". 3PEAK makes no warranty as to the absence of defects, and makes no warranties of any kind, express or implied, including without limitation, implied warranties as to merchantability, fitness for a particular purpose or non-infringement of any third-party's intellectual property rights. Unless otherwise specified in writing, products supplied by 3PEAK are not designed to be used in any life-threatening scenarios, including critical medical applications, automotive safety-critical systems, aviation, aerospace, or any situations where failure could result in bodily harm, loss of life, or significant property damage. 3PEAK disclaims all liability for any such unauthorized use.

This page intentionally left blank