Programmable Current Limit Switches

1 FEATURES

- **Wide Input Voltage Range from 4.5V to 40V with Surge up to 45V**
- **Extremely Low $R_{DS(ON)}$ for the Integrated Protection Switch: 80mΩ**
- **Programmable Soft-Start Time**
- **Programmable Current Limit from 350mA to 2.5A**
- **±7% Current Limit Accuracy at T_A = +25°C**
- **Enable Interface Pin**
- **Short-Circuit Protection**
- **Over-Voltage Protection**
- **Fault Output for Thermal Shutdown, Short-Circuit, UVLO and OVP**
- **-40°C to 125°C Operating Temperature Range**

2 APPLICATIONS

- **White Goods, Appliances**
- **Set-Top Boxes, DVD and Gaming Consoles**
- **HDD and SSD Drives**
- **Smart Meters, Gas Analyzers**
- **Smart Load Switches/USB Switches**
- **Adapter Power Devices**

3 DESCRIPTIONS

The RS2604 is compact, feature rich eFuse with a full suite of protection functions. The wide operating voltage allows control of many popular DC buses. The high precision at room temperature and wide range of current limit provide excellent character and make the RS2604 well suited for many system protection applications.

Load, source and device protection are provided with multiple programmable features including over-current (OC), over-voltage (OV) and under-voltage (UV). 3% threshold accuracy for UV and OV, ensures tight supervision of bus voltages and eliminates the need for supervisor circuitry. Fault flag output (nFLT) is provided for system status monitoring and downstream load control.
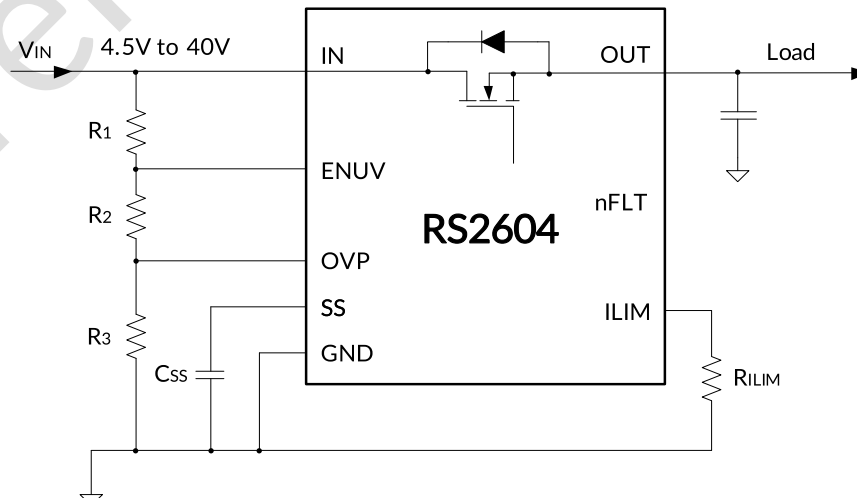
The RS2604 is designed to operate over a temperature range of -40°C to 125°C.

Device Information [1]

PART NUMBER	PACKAGE	BODY SIZE (NOM)
RS2604	UDFN2X3-8	2.00mm × 3.00mm

(1) For all available packages, see the orderable addendum at the end of the data sheet.

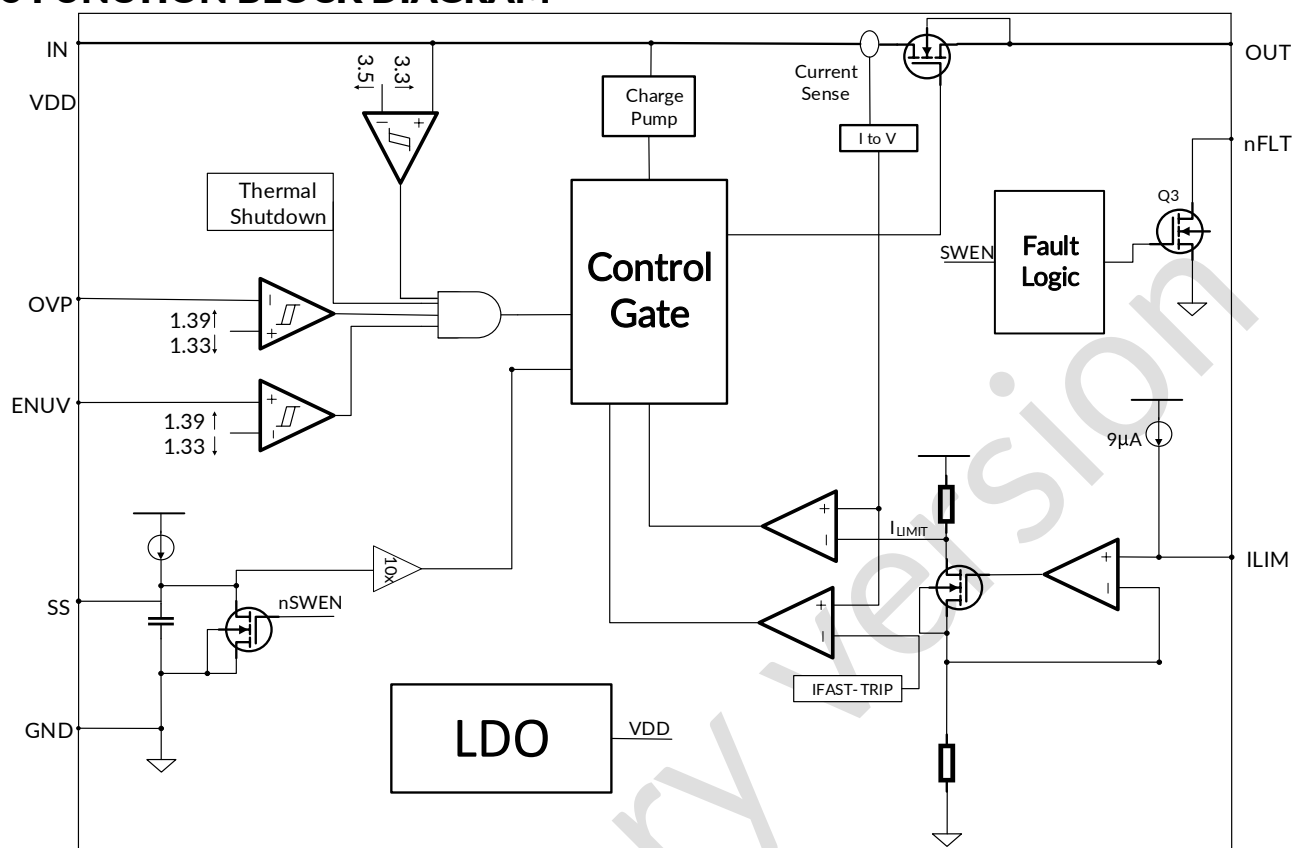## 4 TYPICAL APPLICATION CIRCUIT

5 FUNCTION BLOCK DIAGRAM

Table of Contents

6 REVISION HISTORY

Note: Page numbers for previous revisions may different from page numbers in the current version.

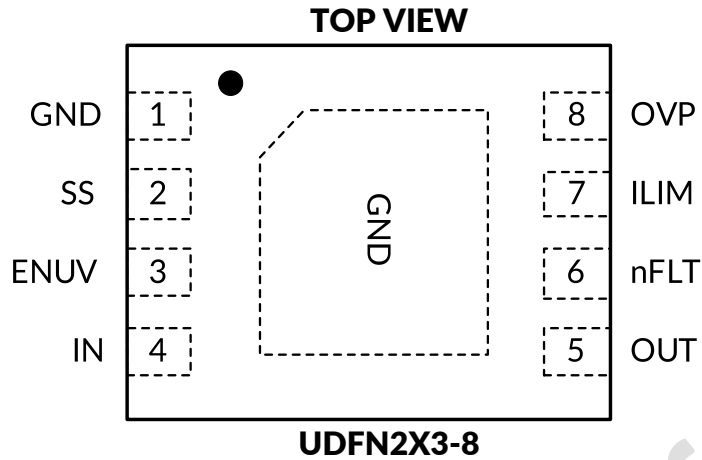| VERSION	Change Date	Change Item
A.0	2024/03/13	Preliminary version completed
A.0.1	2025/03/25	1. Add FUNCTION BLOCK DIAGRAM and DETAILED DESCRIPTION 2. Update TYPICAL PERFORMANCE CHARACTERISTICS
A.0.2	2025/09/22	1. Update Current Limit PARAMETER 2. Update Typical Performance Characteristics 3. Update DETAILED DESCRIPTION

7 PACKAGE/ORDERING INFORMATION [(1)]

PRODUCT	ORDERING NUMBER	TEMPERATURE RANGE	PACKAGE LEAD	PACKAGE MARKING [(2)]	MSL [(3)]	PACKAGE OPTION
RS2604	RS2604YTDB8	-40°C ~125°C	UDFN2X3-8	2604	MSL3	Tape and Reel,3000

NOTE:
(1) This information is the most current data available for the designated devices. This data is subject to change without notice and revision of this document. For browser-based versions of this data sheet, refer to the right-hand navigation.
(2) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device.
(3) RUNIC classify the MSL level with using the common preconditioning setting in our assembly factory conforming to the JEDEC industrial standard J-STD-20F, Please align with RUNIC if your end application is quite critical to the preconditioning setting or if you have special requirement.

8 PIN CONFIGURATIONS

TOP VIEW

UDFN2X3-8

PIN DESCRIPTION

PIN	NAME	DESCRIPTION
1	GND	Ground
2	SS	Soft-Start Pin. A capacitor from this pin to GND sets the ramp rate of output voltage at device turn-on.
3	ENUV	Enable and Under-Voltage Lockout Input. Input for setting programmable under-voltage lockout threshold. An under-voltage event will open internal FET and assert nFLT to indicate power-failure. When pulled to GND, resets the thermal fault latch.
4	IN	Power Input Pin. Power input and supply voltage of the device.
5	OUT	Power Output Pin.
6	nFLT	Fault Event Indicator Pin. Fault event indicator, goes low to indicate fault condition due to under-voltage, over-voltage, short-circuit and thermal shutdown event. A fast-trip does not trigger fault. It is an open drain output.
7	ILIM	Current Limit Programming Pin. A resistor from this pin to GND will set the over-load and short-circuit limit. Do not float this pin.
8	OVP	Over-Voltage Protection Pin. Input for setting programmable over-voltage protection threshold. An over-voltage event will open the internal FET and assert nFLT to indicate over-voltage.

9 SPECIFICATIONS

9.1 Absolute Maximum Ratings

over operating free-air temperature range (unless otherwise noted) [1]

		MIN	MAX	UNIT
IN, OUT, ENUV, nFLT, OVP pins Voltage		-0.3	45	V
SS, ILIM Voltage		-0.3	6.0	V
Package thermal impedance [2], θ_{JA}	UDFN2X3-8		62.9	°C/W
Junction temperature [3], T_J		-40	150	°C
Storage temperature, T_{stg}		-65	150	°C
Lead Temperature (Soldering,10secs)			260	°C

(1) Stresses beyond those listed under Absolute Maximum Ratings may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated under Recommended Operating Conditions is not implied. Exposure to absolute-maximum-rated conditions for extended periods may affect device reliability.

(2) The package thermal impedance is calculated in accordance with JESD-51.

(3) The maximum power dissipation is a function of $T_{J(MAX)}$, $R_{\theta JA}$, and T_A. The maximum allowable power dissipation at any ambient temperature is $P_D = (T_{J(MAX)} - T_A) / R_{\theta JA}$. All numbers apply for packages soldered directly onto a PCB.

9.2 ESD Ratings

The following ESD information is provided for handling of ESD-sensitive devices in an ESD protected area only.

			VALUE	UNIT
$V_{(ESD)}$	Electrostatic discharge	Human-Body Model (HBM)	±2000	V
		Charged-Device Model (CDM)	±1000	
		Latch-Up (LU)	±200	mA

ESD SENSITIVITY CAUTION

ESD damage can range from subtle performance degradation to complete device failure. Precision integrated circuits may be more susceptible to damage because very small parametric changes could cause the device not to meet its published specifications.

9.3 Recommended Operating Rating

	MIN	MAX	UNIT
Supply Input Voltage	4.5	40	V
Operating Junction Temperature Range	-40	125	°C

9.4 Electrical Characteristics

(V_{IN} = 4.5V to 40V, V_{ENUV} = 2V, V_{OVP} = 0V, R_{ILIM} = 160kΩ, C_{SS} = 1.2nF, nFLT = Open, T_A = 25°C, unless otherwise noted.) [1]

PARAMETER	SYMBIL	CONDITIONS	MIN[2]	TYP[3]	MAX[2]	UNITS
POWER SUPPLY AND CURRENTS						
Power Input Voltage Range	V_{IN}		4.5		40	V
Under-Voltage Lockout Threshold	V_{UVLO}	VIN Rising		3.5		V
Under-Voltage Lockout Threshold Hysteresis	V_{UVLO_HY}			0.2		V
Supply Current, Enabled	I_Q	V_{ENUV} = 2V, V_{IN} = 12V		175		µA
Supply Current, Disabled	I_{SD}	V_{ENUV} = 0V, V_{IN} = 12V		1.5	10	µA
OVER-VOLTAGE PROTECTION (OVP) INPUT						
Over-Voltage Threshold Voltage, Rising	V_{OVPR}	OVP Rising		1.39		V
Over-Voltage Threshold Voltage, Falling	V_{OVPF}			1.33		V
OVP Input Leakage Current	I_{OVP}	0V≤V_{OVP}≤ 40V		0	0.1	µA
ENABLE AND UNDER-VOLTAGE LOCKOUT (ENUV) INPUT						
ENUV Threshold Voltage, Rising	V_{ENR}	ENUV Rising		1.39		V
ENUV Threshold Voltage, Falling	V_{ENF}			1.33		V
ENUV Input Leakage Current	I_{ENUV}	0V≤V_{ENUV}≤ 40V		0	0.1	µA
SOFT-START: OUTPUT RAMP CONTROL (SS)						
SS Charging Current	I_{SS}	V_{SS}=0V		0.56		µA
SS Discharging Resistance	R_{SS}	ENUV=0V		4.8		kΩ
SS Maximum Capacitor Voltage	Vssmax			5		V
SS to OUT Gain	GAINss	$\Delta V_{OUT}/\Delta V_{SS}$		11.5		V/V
CURRENT LIMIT PROGRAMMING (ILIM)						
ILIM Pin Bias Current	I_{ILIM_Bias}	ILIM=0V		9		µA
Current Limit	I_{ILIM}	R_{LIMIT}=135kΩ, 25°C		2		A
		R_{LIMIT}=Short, 25°C		0.3		A
Fast-Trip Comparator Threshold	I_{FAST_TRIP}			1.8×I_{LIMIT}		A
ILIM Open Resistor Detect Threshold	V_{ILIM_OPEN}	V_{ILIM} rising, R_{ILIM} = Open		3		V
MOSFET-POWER SWITCH						
FET On-Resistance	R_{DS}			80		mΩ
PASS FET OUTPUT (OUT)						
OUT Bias Current in off State	I_{LKG_OUT}	V_{ENUV} = 0V, V_{OUT} = 0V (Sourcing)		0.1	0.5	µA
Discharge Resistor	R_{DIS}	V_{ENUV} = 0V, V_{OUT} = 300mV (Sinking)		5		kΩ
FAULT FLAG (nFLT)						
nFLT Pull-Down Resietance	R_{nFLT}	Device in fault condition, V_{ENUV} = 0V, I_{nFLT} = 10mA		130		Ω
nFLT Input Leakage Current	I_{nFLT}	0V≤V_{nFLT}≤ 40V		0	0.1	µA
THERMAL SHUTDOWN						
Thermal Shutdown Temperature	T_{SD}	T_J Increasing		145		°C
Thermal Shutdown Hysteresis	T_{SD_HY}			25		°C

9.5 Timing Requirements

(V_{IN} = 12V, V_{ENUV} = 2V, V_{OVP} = 0V, R_{ILIM} = 160kΩ, C_{SS} = 1.2nF, nFLT = Open, T_A = 25°C, unless otherwise noted.) [1]
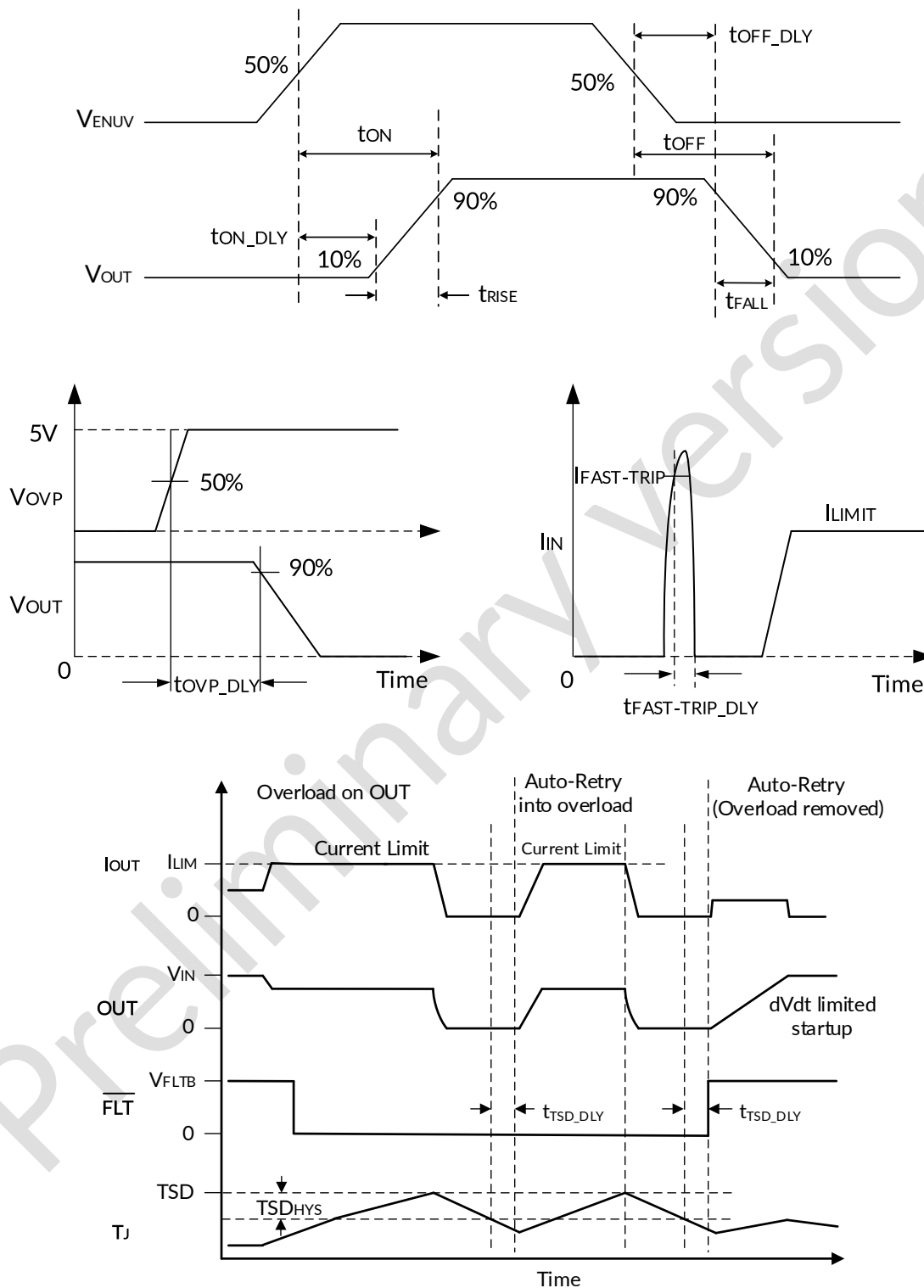
PARAMETER	SYMBIL	CONDITIONS	MIN[2]	TYP[3]	MAX[2]	UNITS
ENABLE AND UNDER-VOLTAGE LOCKOUT (ENUV) INPUT						
Turn-Off delay	T_{OFF_DLY}	ENUV50%↓ to V_{OUT}90%↓, with C_{SS}=C_{OUT}=Open		1.2		μs
Turn-On delay	T_{ON_DLY}	ENUV50%↑ to V_{OUT}10%↑, with C_{SS}=C_{OUT}=Open		96		μs
OVER-VOLTAGE PROTECTION (OVP) INPUT						
OVP disable delay	T_{OVP_DLY}	OVP50%↑ to V_{OUT}90%↓		0.2		μs
SOFT-START: OUTPUT RAMP CONTROL (SS)						
Output Ramp Time	t_{RISE}	ENUV50%↑ to V_{OUT}90%↑, with C_{SS} = Open, C_{OUT} = 2.2μF		125		μs
		ENUV50%↑ to V_{OUT}90%↑, with C_{SS} =1.2nF, C_{OUT} =2.2μF		1.5		ms
CURRENT LIMIT PROGRAMMING (ILIM)						
Fast-Trip Comparator Delay	$t_{FAST-TRIP\_DLY}$			1		μs
THERMAL SHUTDOWN (TSD)						
Retry Delay after Thermal Shutdown Recovery, T_J < [T_{TSD} - 25°C]	t_{TSD_DLY}			130		ms

(1) Electrical table values apply only for factory testing conditions at the temperature indicated. Factory testing conditions result in very limited self-heating of the device.

(2) Limits are 100% production tested at 25°C. Limits over the operating temperature range are ensured through correlations using statistical quality control (SQC) method.

(3) Typical values represent the most likely parametric norm as determined at the time of characterization. Actual typical values may vary over time and will also depend on the application and configuration.

9.6 Parametric Measurement Information

9.7 Typical Performance Characteristics

NOTE: The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only.
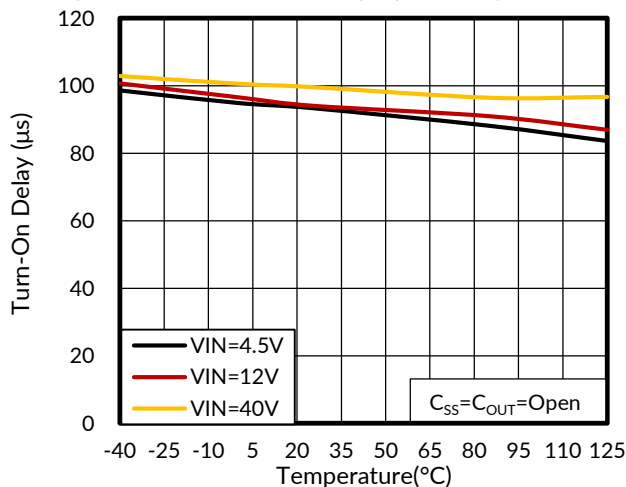

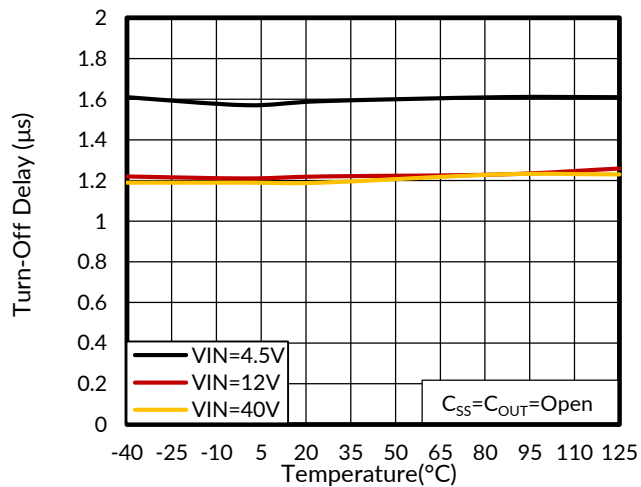**Figure 1. Turn-On Delay t_{ON_DLY} vs Temperature**

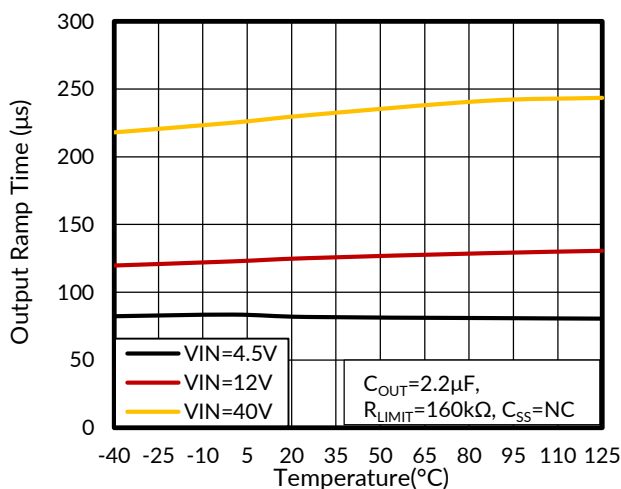**Figure 2. Turn-Off Delay t_{OFF_DLY} vs Temperature**

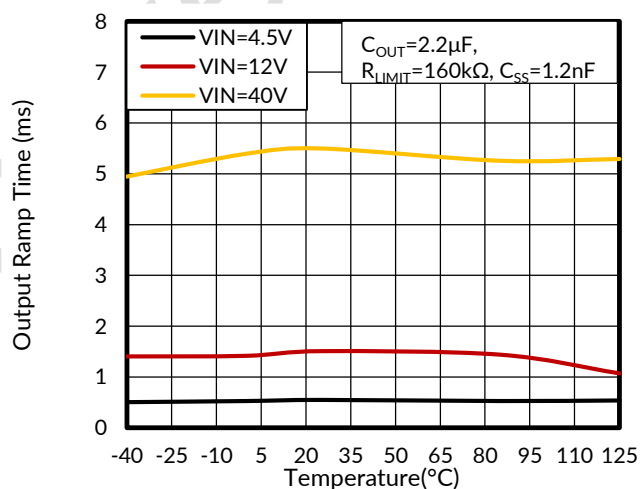**Figure 3. Output Ramp Time t_{RISE} vs Temperature**
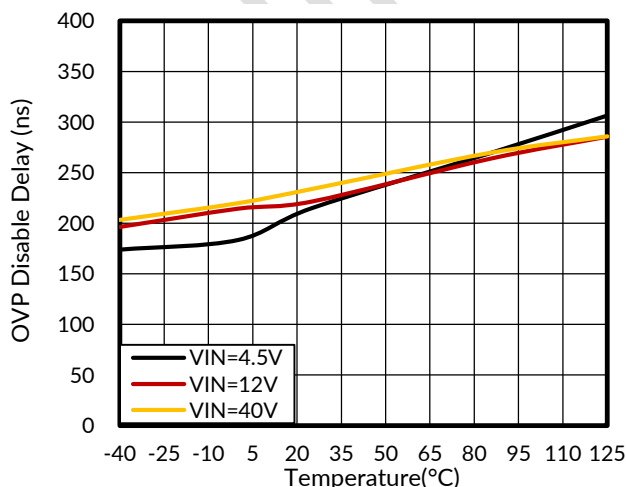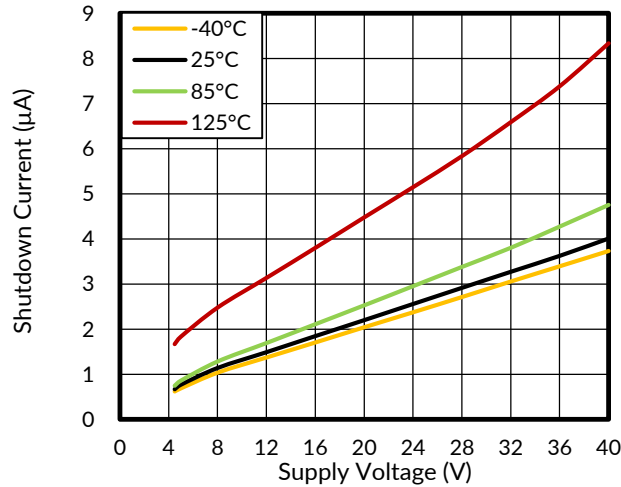

Figure 4. Output Ramp Time t_{RISE} vs Temperature

Figure 5. OVP Disable Delay t_{OVP_DLY} vs Temperature

Figure 6. Quiescent Current vs Supply Voltage

Typical Performance Characteristics

NOTE: The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only.
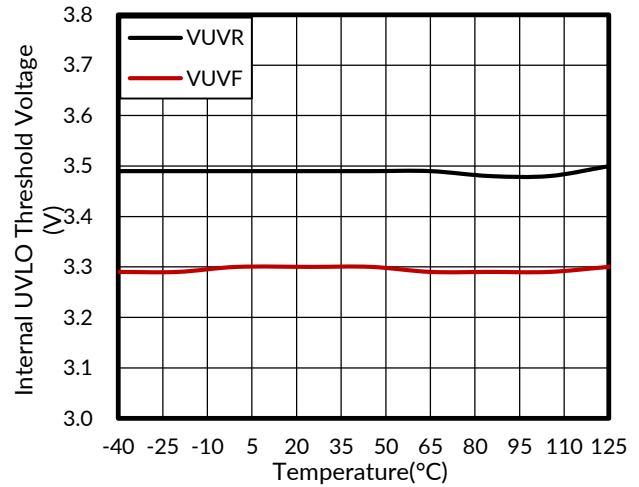

Figure 7. Shutdown Current vs Supply Voltage

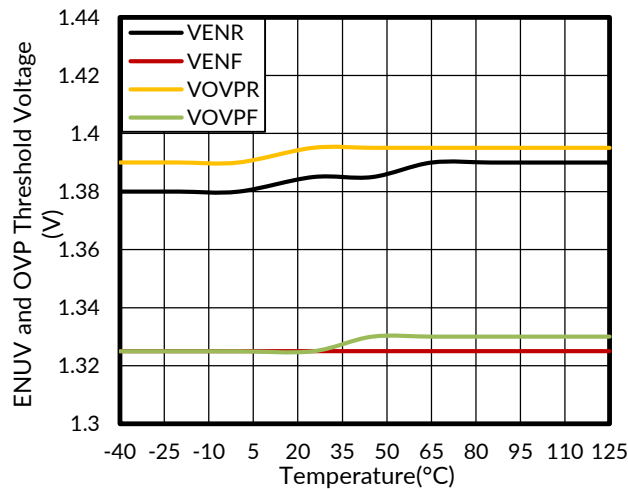**Figure 8. UVLO Threshold Voltage vs Temperature**

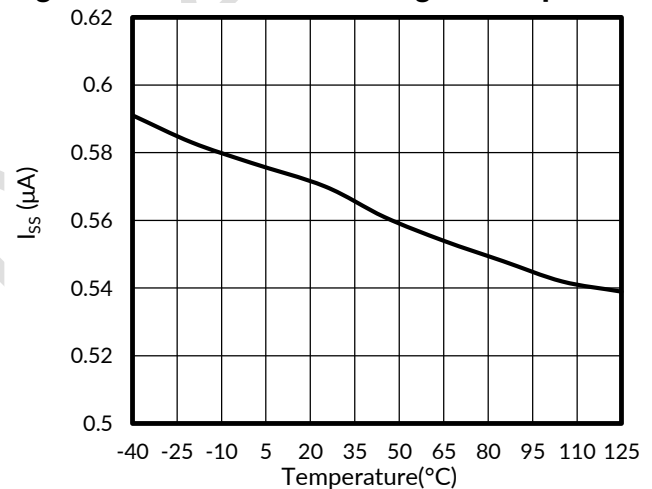**Figure 9. ENUV and OVP Threshold Voltage vs Temperature**

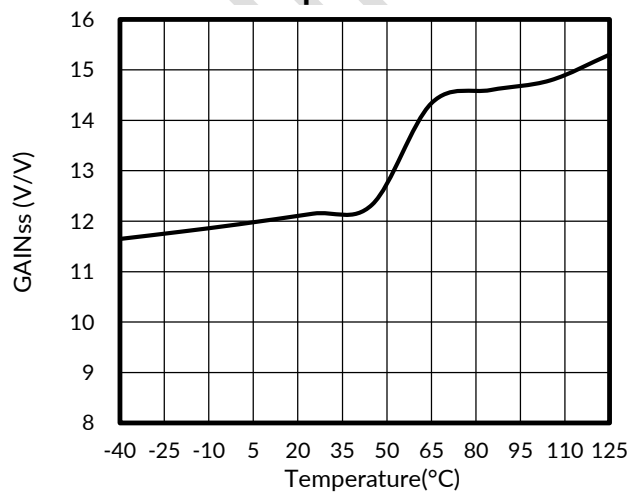
Figure 10. I_{SS} vs Temperature
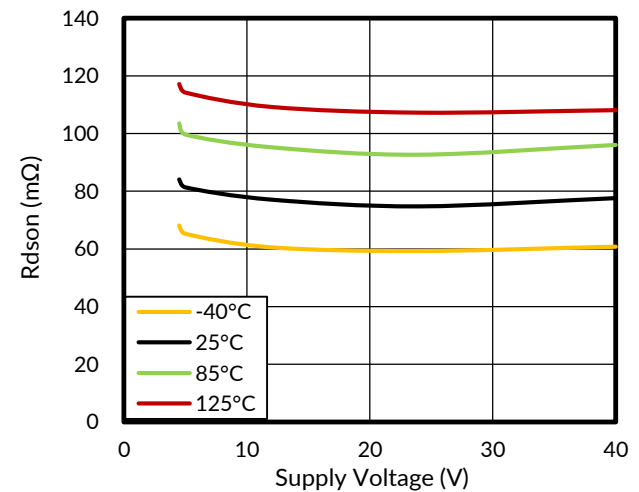

Figure 11. GAINss vs Temperature

Figure 12. Enter Over Temperature

Typical Performance Characteristics

NOTE: The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only.
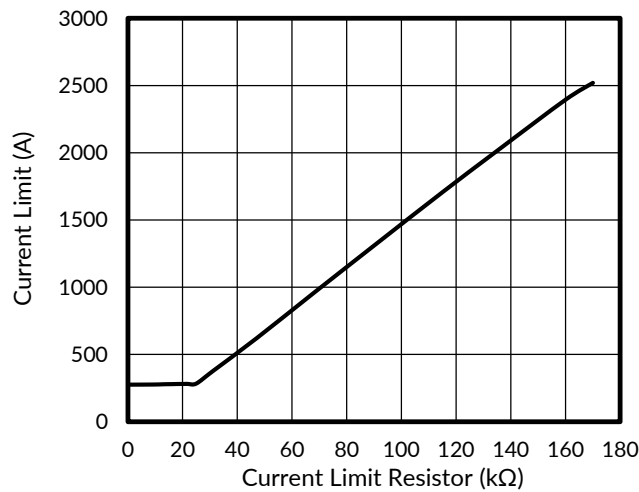

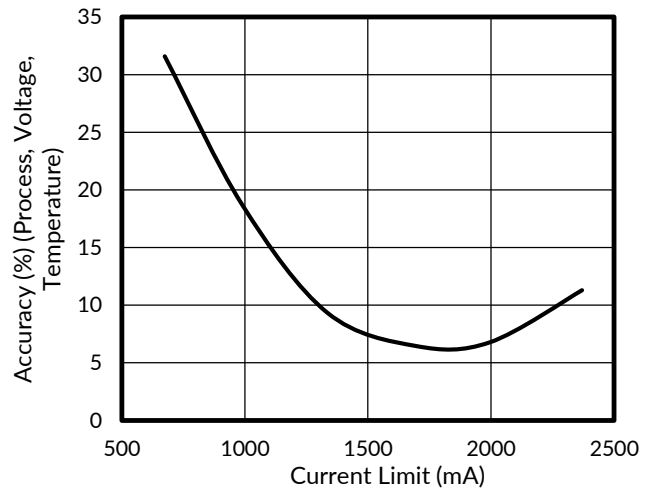Figure 13. Current Limit vs Current Limit Resistor

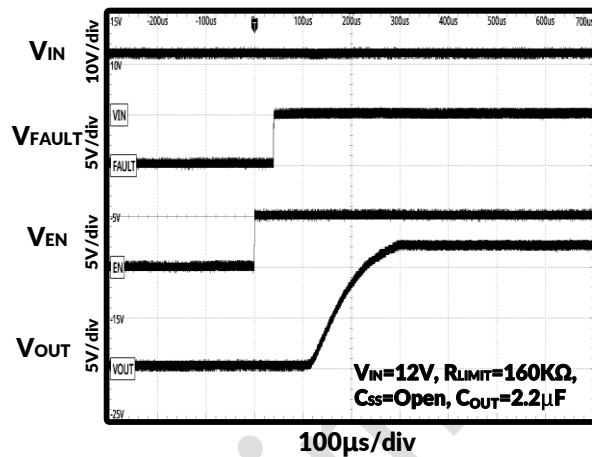Figure 14. Current Limit Accuracy vs Current Limit

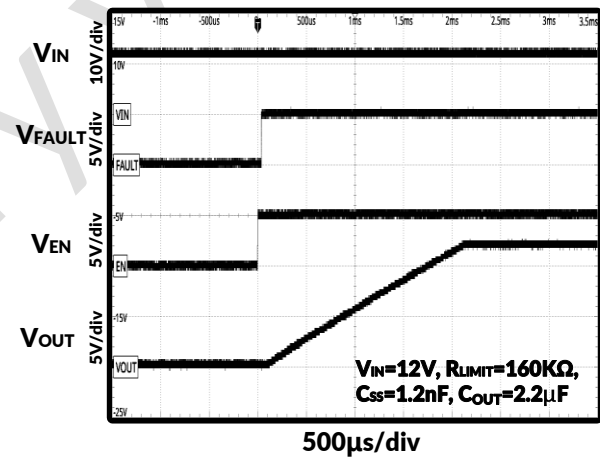Figure 15. Turn-On with Enable

Figure 16. Turn-On with Enable

Figure 17. OVP Turn-On Delay: OVP↓ to Output Ramp↑

Figure 18. OVP Turn-Off Delay: OVP↑ to Fault↓

Typical Performance Characteristics

NOTE: The graphs and tables provided following this note are a statistical summary based on a limited number of samples and are provided for informational purposes only.

Figure 19. Hot-Short: Fast-Trip Response and Current Regulation

Figure 20. Hot-Short: Fast-Trip Response (Zoomed)

Figure 21. Output over current

10 DETAILED DESCRIPTION

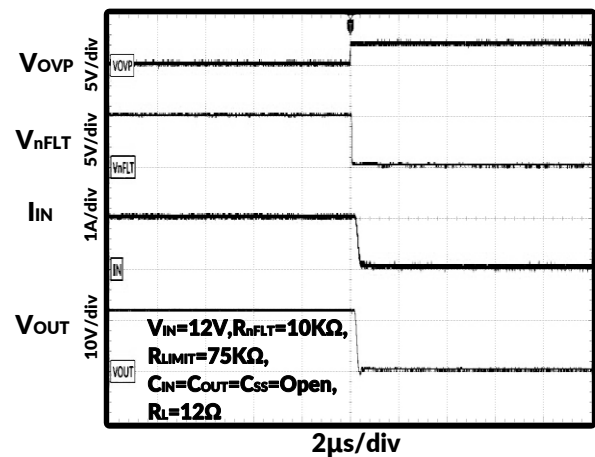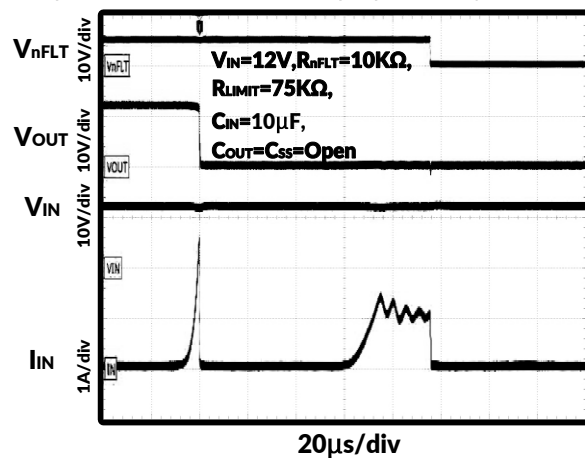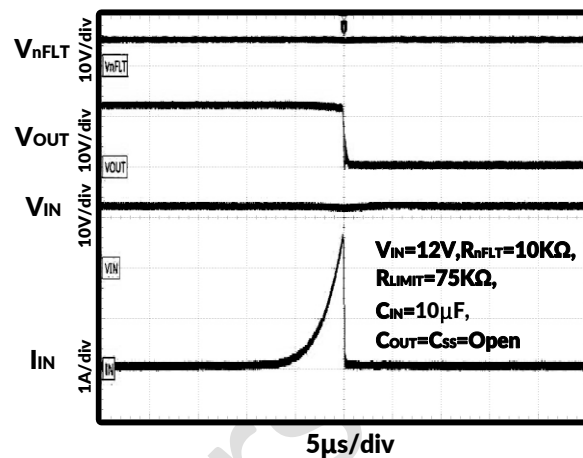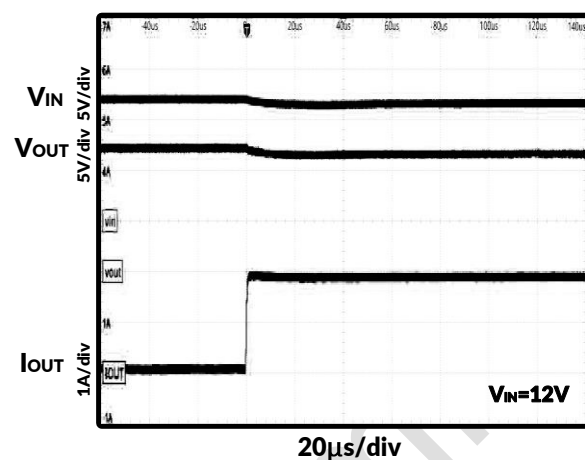## 10.1 Overview

The RS2604 is compact, feature rich eFuse with a full suite of protection functions. The wide operating voltage allows control of many popular DC buses. The high precision at room temperature and wide range of current limit provide excellent character and make the RS2604 well suited for many system protection applications.

Load, source and device protection are provided with multiple programmable features including over-current (OC), over-voltage (OV) and under-voltage (UV). 3% threshold accuracy for UV and OV, ensures tight supervision of bus voltages and eliminates the need for supervisor circuitry. Fault flag output (nFLT) is provided for system status monitoring and downstream load control.

The RS2604 is designed to operate over a temperature range of -40°C to 125°C.

10.2 Enable and Adjusting Under-Voltage Lockout (UVLO)

The ENUV pin controls the on/off state of the internal FET. A voltage $V_{ENUV} < V_{ENF}$ on this pin turns off the internal FET, thus disconnecting IN from OUT.

The internal de-glitch delay on ENUV falling edge is kept low for quick detection of power failure. For applications where a higher de-glitch delay on ENUV is desired, or when the supply is particularly noisy, it is recommended to use an external filter capacitor from the ENUV terminal to GND.

The under-voltage lockout threshold can be programmed by using an external resistor divider from the supply IN terminal to the ENUV terminal to GND as shown in Figure 22. When an under-voltage or input power fail event is detected, the internal FET is quickly turned off, and nFLT is asserted. If the under-voltage lockout function is not needed, the ENUV pin should be connected to the IN terminal. The ENUV terminal should not be left floating. RS2604 also implement internal under voltage lockout (UVLO) circuitry on the IN pin. The devices get disabled when the IN terminal voltage falls below internal UVLO threshold V_{UVF}.
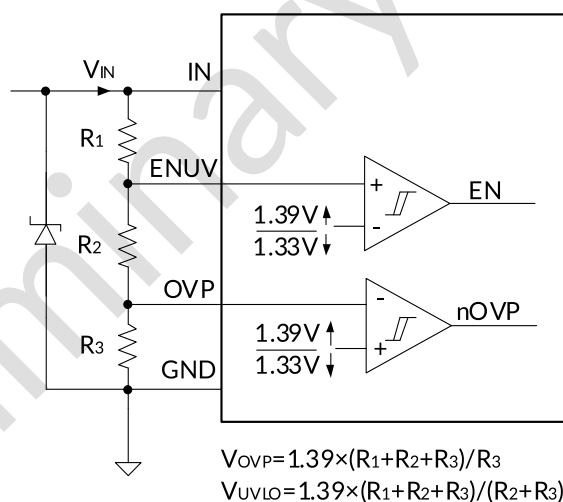
$$V_{OVP}=1.39\times(R_1+R_2+R_3)/R_3$$
$$V_{UVLO}=1.39\times(R_1+R_2+R_3)/(R_2+R_3)$$

Figure 22. UVLO and OVP Thresholds Set by R_1, R_2 and R_3

10.3 Over-Voltage Protection (OVP)

RS2604 incorporate circuits to protect the system during over-voltage conditions. A resistor divider, connected from the supply to OVP terminal to GND (as shown in Figure 22), programs the over-voltage threshold. A voltage more than V_{OVPR} on the OVP pin turns off the internal FET and protects the downstream load. This pin should be tied to GND when not used.

10.4 Hot-Plug-In and In-Rush Current Control

RS2604 are designed to control the in-rush current upon insertion of a card into a live backplane or other "hot" power source. This limits the voltage sag on the backplane's supply voltage and prevents unintended resets of the system power. A slew rate controlled start-up (SS) also helps to eliminate conductive and radiated

interference. An external capacitor from the SS pin to GND defines the slew rate of the output voltage at power-on (as shown in Figure 23). The equation governing slew rate at start-up is shown in Equation 1:

$$I_{SS} = \frac{C_{SS}}{GAIN_{SS}} \times \frac{dV_{OUT}}{dt} \tag{1}$$

where:
I_{SS} = 0.56µA (TYP)
dV_{OUT}/dt = Desired output slew rate
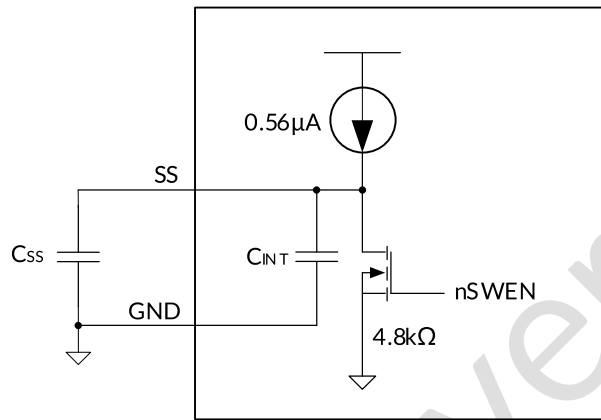$GAIN_{SS}$ = $\Delta V_{OUT}/\Delta V_{SS}$ gain = 11.5

Figure 23. Output Ramp Time t_{dVdT} is Set by C_{dVdT}

The total ramp time (t_{SS}) of V_{OUT} from 0 to V_{IN} can be calculated using Equation 2:

$$t_{SS} = 15.53 \times 10^4 \times V_{IN} \times C_{SS} \tag{2}$$

where C_{SS} is in Farad.
The in-rush current, $I_{IN-RUSH}$ can be calculated as

$$I_{IN-RUSH} = C_{OUT} \times \frac{V_{IN}}{t_{SS}} \tag{3}$$

The SS pin can be left floating to obtain a predetermined slew rate (t_{SS}) on the output. When terminal is left floating, the device sets an internal ramp rate of ~50V/ms for output (V_{OUT}) ramp.

If V_{OUT} is shorted, RS2604 will try to restart automatically, the chips have to take all the power at this time, and C_{SS} needs to be limited to protect these chips from excessive power damage. Figure 24 is SOA (Safe Operating Area) when restarted at short-circuit state.
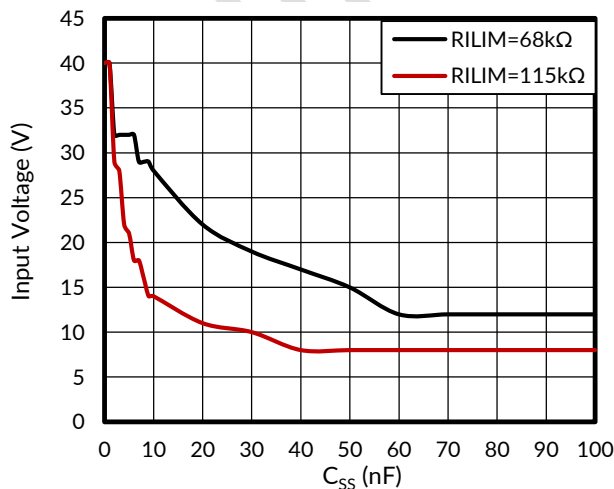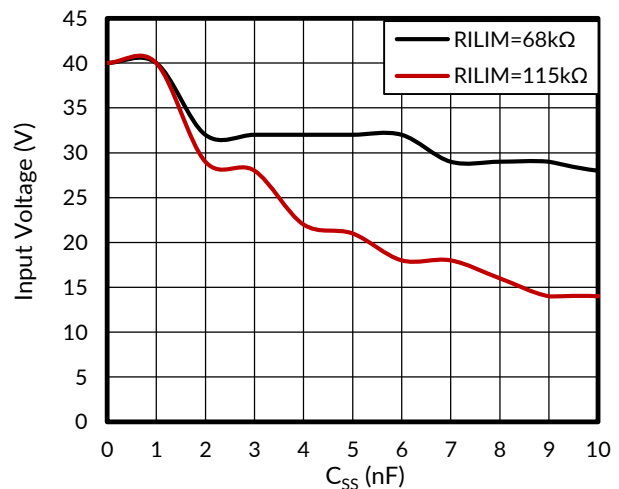

Figure 24. Power SOA

Figure 25. Power SOA

10.5 Over-Load and Short-Circuit Protections

At all times load current is monitored by sensing voltage across an internal sense resistor. During over-load events, current is limited to the current limit (I_{LIMIT}) programmed by R_{ILIM} resistor:
RS2604:

$$I_{LIMIT} (A) = 15 \times 10^{-3} \times R_{ILIM} (k\Omega) - 0.03 \tag{4}$$

$$R_{ILIM} (k\Omega) = \frac{I_{LIMIT} (A) + 0.03}{15 \times 10^{-3}} \tag{5}$$

where:

I_{LIMIT} is over-load current limit in Ampere.

R_{ILIM} is the current limit programming resistor in kΩ.

RS2604 incorporate two distinct over-current protection levels: the current limit (I_{LIMIT}) and the fast-trip threshold ($I_{FAST-TRIP}$). The fast-trip and current limit operations are shown in Figure 26.

Bias current on ILIM pin directly controls current-limiting behavior of the device, and PCB routing of this node must be kept away from any noisy (switching) signals.

10.6 Over-Load Protection

Under overload conditions, the internal current - limiting amplifier adjusts the output current to the current - limit value ILIMIT. During the current - limiting regulation, the output voltage will drop, which leads to an increase in the power dissipation of the device. If the device junction temperature reaches the thermal shutdown threshold (T_{TSD}), or the output voltage is approximately 1.4V lower than the supply voltage, the internal FET will be turned off. Once in the shutdown state, after the junction temperature $T_J < [T_{TSD} - 20°C]$, the RS2604 will start an automatic recovery cycle with a duration of t_{TSD_DLY}. During the shutdown period, the fault pin nFLT will be pulled low to indicate a fault condition.

During the startup of the output voltage, the output capacitor needs to be charged. If the sum of the current used to charge the capacitor and the load current exceeds the set over - current value, over - current protection may be triggered, preventing the chip from starting up. The current for charging the output capacitor is determined by the following formula:

$$I_{cap} = \frac{6.44 \times C_{OUT} \times e^{-6}}{C_{SS}} \tag{6}$$

Assuming the output capacitor is 1μF and C_{SS} is 1nF, the current for charging the output capacitor is 6.44mA, which can be ignored. However, when the C_{SS} capacitor is 1pF, the charging current for the capacitor will increase to 644mA. If the set current limit value is 1A at this time, as long as the load current is greater than 0.356A, over - current protection may be triggered.

10.7 Short-Circuit Protection

During a transient short-circuit event, the current through the device increases very rapidly. As current limit amplifier cannot respond quickly to this event due to its limited bandwidth, the device incorporates a fast-trip comparator, with a threshold $I_{FAST-TRIP}$. When the current through the internal FET exceeds $I_{FAST-TRIP}$ ($I_{OUT} > I_{FAST-TRIP}$), this comparator shuts down the pass device within 1μs and terminates the rapid short-circuit peak current. The $I_{FAST-TRIP}$ threshold is dependent on programmed over-load current limit and function of R_{ILIM}. See Equation 7 for the calculation.

$$I_{FAST-TRIP} = 1.8 \times I_{LIMIT} \tag{7}$$

where:

$I_{FAST-TRIP}$ is fast-trip current limit in Ampere.

The fast-trip circuit holds the internal FET off for only a few microseconds, after which the device attempts to turn back on normally, allowing the current limit loop to regulate the output current to I_{LIMIT}. Then, device behaves similarly to over-load condition.

10.8 Start-Up with Short on Output

During start-up into a short-circuit current is limited to I_{LIMIT}. This feature helps in quick fault isolation and hence ensures stability of the DC bus.

10.9 Constant Current Limit Behavior during Over-Current Faults

When $T_J > 120°C$, there is about 1% to 20% thermal foldback in the current limit value so that the regulated current drops from I_{LIMIT} to I_{LIMIT}'. Eventually, the device shuts down due to over temperature.

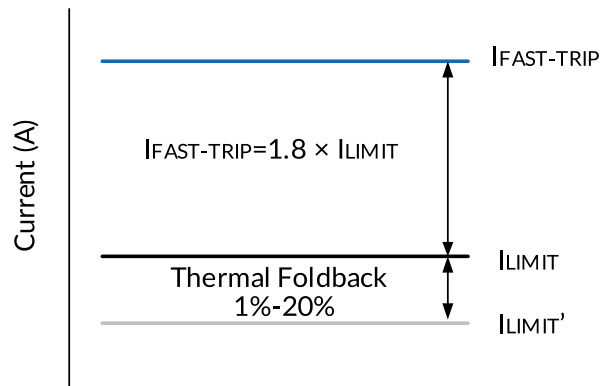**Figure 26. Over-Current Protection Levels**

10.10 Fault Response

The nFLT pin open drain output is asserted (active low) during under-voltage, over-voltage and thermal shutdown conditions. The nFLT signal remains asserted until the fault condition is removed and the device resumes normal operation. During thermal shutdown, each of the RS2604 commences an auto-recovery cycle t_{TSD_DLY} after $T_J < [T_{TSD} - 20°C]$.

Connect nFLT pin with a pull-up resistor to input or output voltage rail. The nFLT pin may be left open or tied to GND when not used.

10.11 IN, OUT and GND Pins

The IN pin should be connected to the power source. A ceramic bypass capacitor close to the device from IN to GND is recommended to alleviate bus transients. The recommended operating voltage range is 4.5V to 40V. The OUT pin should be connected to the load. V_{OUT} in the ON condition, is calculated using the Equation 8:

$$V_{OUT} = V_{IN} - (R_{DS(ON)} \times I_{OUT}) \tag{8}$$

where $R_{DS(ON)}$ is the on-resistance of the internal FET. GND terminal is the most negative voltage in the circuit and is used as a reference for all voltage reference unless otherwise specified.

10.12 Thermal Shutdown

Internal over-temperature shutdown disables/turns off the FET when $T_J > 150°C$ (TYP). Each of the RS2604 commences an auto-recovery cycle t_{TSD_DLY} after T_J drops below $[T_{TSD} - 20°C]$. During the thermal shutdown, the fault pin nFLT is pulled low to signal a fault condition.

10.13 Shutdown Control

The internal FET and hence the load current can be remotely switched off by taking the ENUV pin below its 1.33V threshold with an open collector or open drain device as shown in Figure 27. Upon releasing the ENUV pin the device turns on with soft-start cycle.
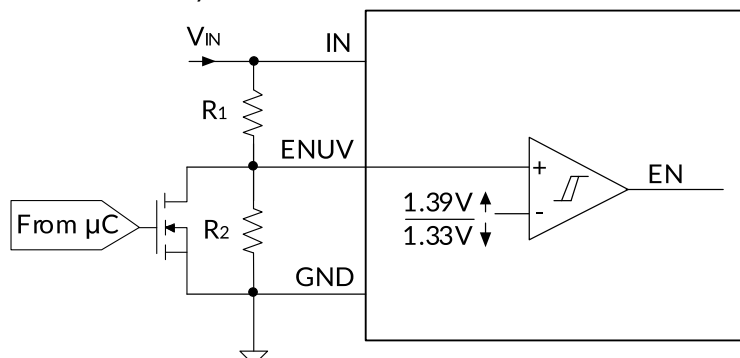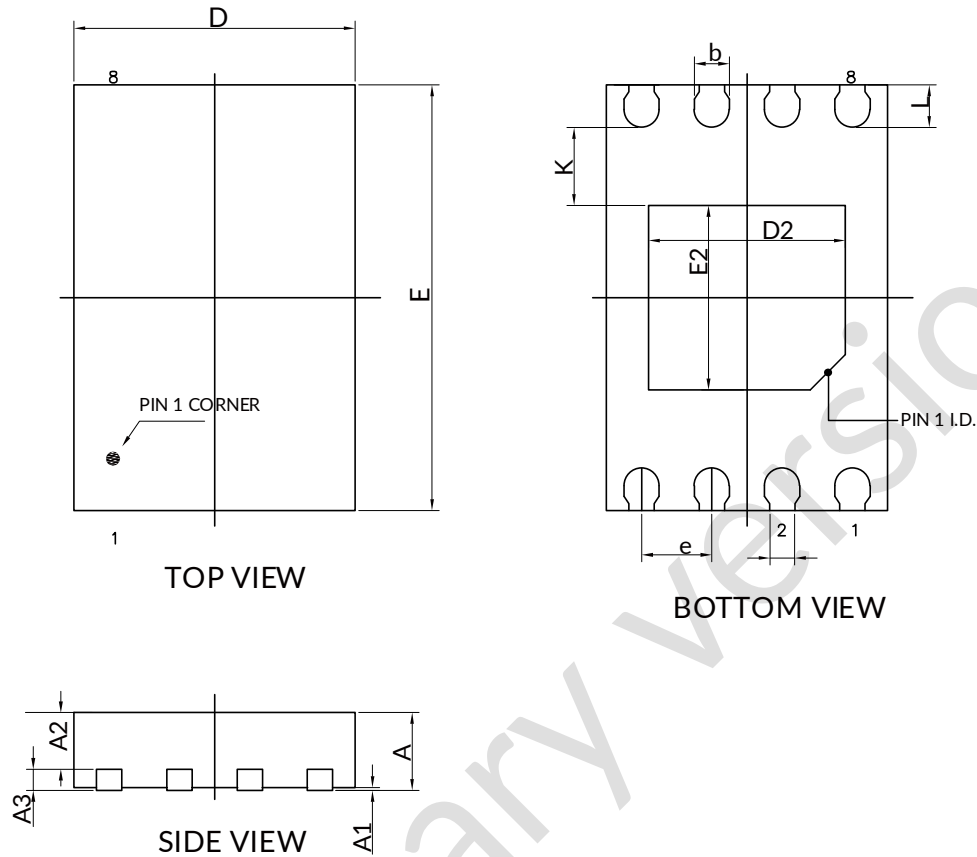

Figure 27. Shutdown Control
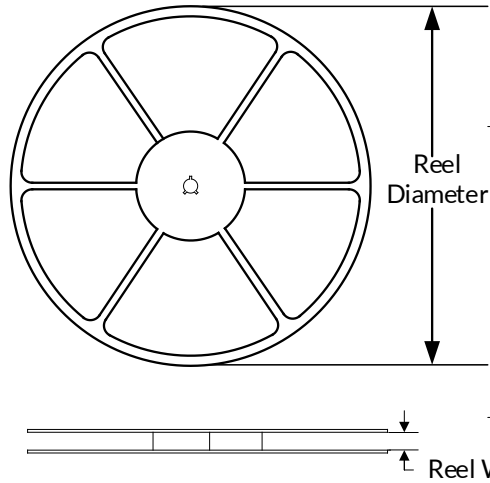
11 PACKAGE OUTLINE DIMENSIONS
UDFN2X3-8 [(4)]

TOP VIEW

BOTTOM VIEW

PIN 1 CORNER

PIN 1 I.D.

SIDE VIEW

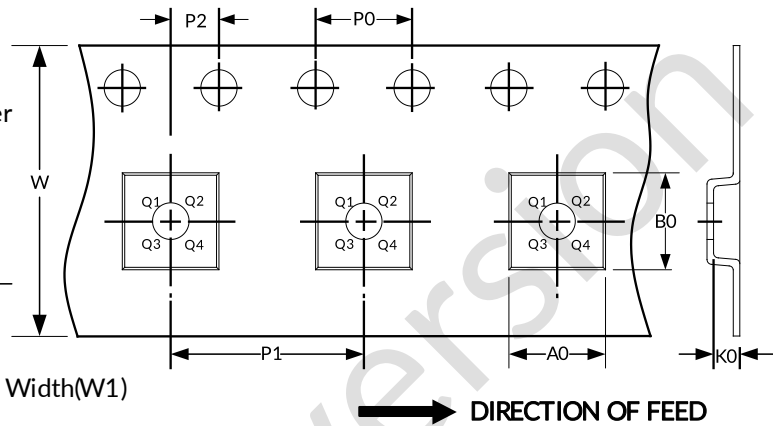| Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A [(1)]	0.500	0.600	0.020	0.024
A1	0.000	0.050	0.000	0.002
A2	0.400		0.016	
A3	0.152 REF [(3)]		0.006 REF [(3)]	
D [(1)]	1.900	2.100	0.075	0.083
E [(1)]	2.900	3.100	0.114	0.122
D2	1.400	1.600	0.055	0.063
E2	1.300	1.500	0.051	0.059
e	0.500 BSC [(2)]		0.020 BSC [(2)]	
b	0.200	0.300	0.008	0.012
L	0.250	0.350	0.010	0.014
K	0.500 REF [(3)]		0.020 REF [(3)]	

NOTE:
1. Plastic or metal protrusions of 0.075mm maximum per side are not included.
2. BSC (Basic Spacing between Centers), "Basic" spacing is nominal.
3. REF is the abbreviation for Reference.
4. This drawing is subject to change without notice.

12 TAPE AND REEL INFORMATION

REEL DIMENSIONS   TAPE DIMENSION

NOTE: The picture is only for reference. Please make the object as the standard.

KEY PARAMETER LIST OF TAPE AND REEL

Package Type	Reel Diameter	Reel Width (mm)	A0 (mm)	B0 (mm)	K0 (mm)	P0 (mm)	P1 (mm)	P2 (mm)	W (mm)	Pin1 Quadrant
UDFN2X3-8	7"	9.5	2.30	3.30	0.95	4.0	4.0	2.0	8.0	Q2

NOTE:

1. All dimensions are nominal.

2. Plastic or metal protrusions of 0.15mm maximum per side are not included.

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