



Enhanced Power Switch

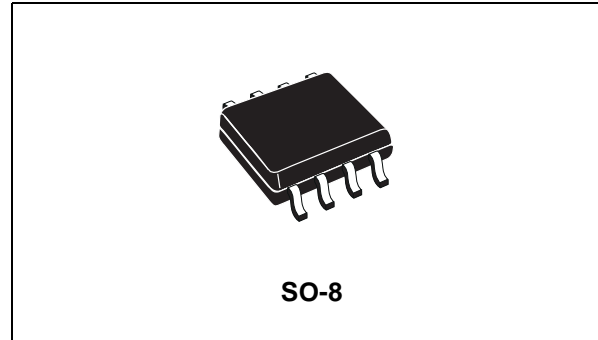
Data Brief

Features

- 80mΩ HIGH-SIDE MOSFET SWITCH
- 1000mA CONTINUOUS CURRENT PER CHANNEL
- INDEPENDENT THERMAL AND SHORT-CIRCUIT PROTECTION WITH OVERCURRENT LOGIC OUTPUT
- OPERATING RANGE FROM 2.7V TO 5.5V
- 2.5ms TYPICAL RISE TIME
- UNDERVOLTAGE LOCKOUT
- 10μA MAXIMUM STANDBY SUPPLY CURRENT
- AMBIENT TEMPERATURE RANGE, 0°C TO 85°C
- 8kV ESD PROTECTION
- REVERSE CURRENT PROTECTION
- FAULT-BLANKING

Description

These devices power distribution switches are intended for application where heavy capacitive loads and short circuits are likely to be encountered. These devices incorporate 80mΩ N-channel MOSFET high-side power switches for power-distribution systems that require multiple powers switches in a single package. Each switch is controlled by an independent logic enable input. Gate drive is provided by an internal charge pump designed to control the power-switch rise times and fall times to minimize current surges during switching.



The charge pump requires no external components and allows operation from supplies as low as 2.7 V. When the output load exceeds the current-limit threshold or a short is present, these devices limit the output current to a safe level by switching into a constant-current mode, pulling the overcurrent (OCx) logic output low. When continuous heavy overloads and short circuits increase the power dissipation in the switch, causing the junction temperature to rise, a thermal protection circuit shuts off the switch to prevent damage. Recovery from a thermal shutdown is automatic once the device has cooled sufficiently. Internal circuitry ensures the switch remains off until valid input voltage is present.

Order Codes

Part Number	Channel	R _{ON} (Ω)	Current Limit (mA)	Enable	Package
STMP52262MTR	2	80	1000	Active Low	SO-8
STMP52272MTR	2	80	1000	Active High	SO-8

1 Summary Description

1.1 Pin Connection and Description

Figure 1. Connections Diagram

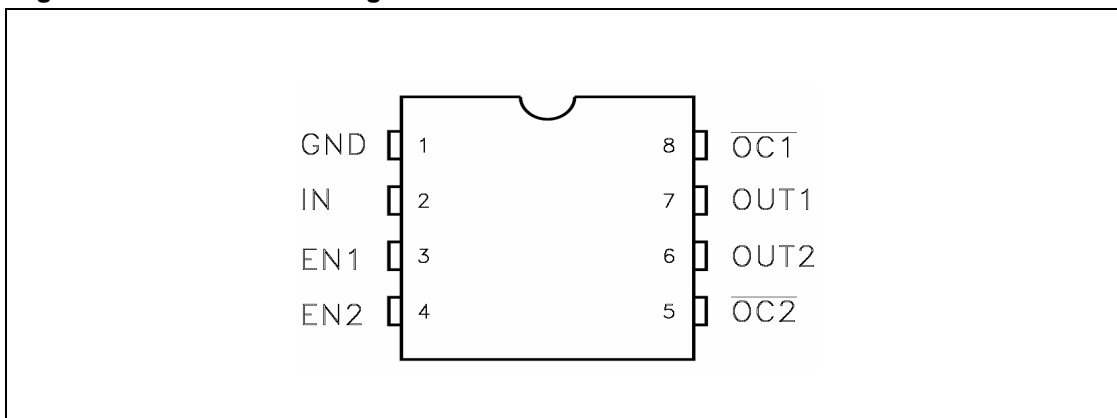
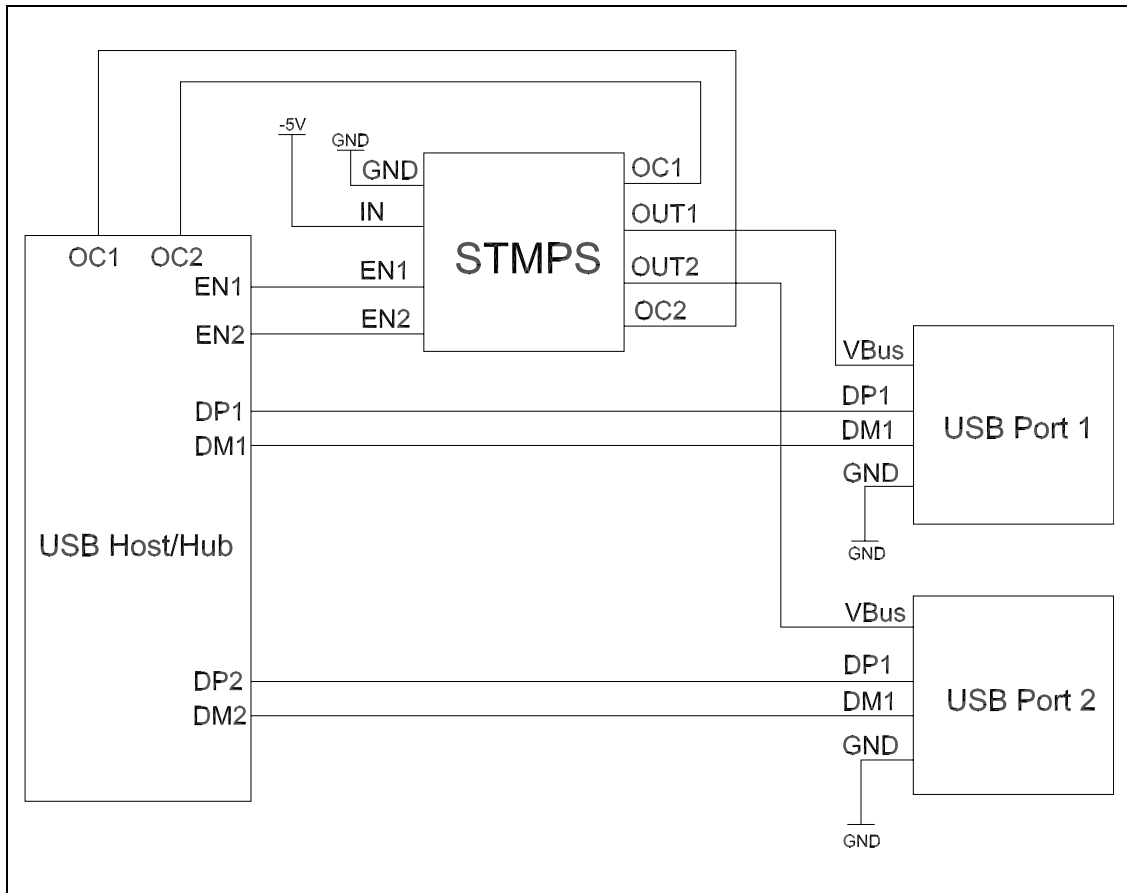


Table 1. Pin Description

PIN N°	Symbol	Type	Name and Function
1	GND		Ground
2	IN		V _{CC} input, 2.7-5.5V
3	EN 1	I	Enable for channel 1
4	EN 2	I	Enable for channel 2
5	OC2	O	Open drain output for fault indication of channel 2
6	OUT2	-	Output of channel 2
7	OUT1	-	Output of channel 1
8	OC1	O	Open drain output for fault indication of channel 1

2 Typical Application

Figure 2. Typical Application Diagram



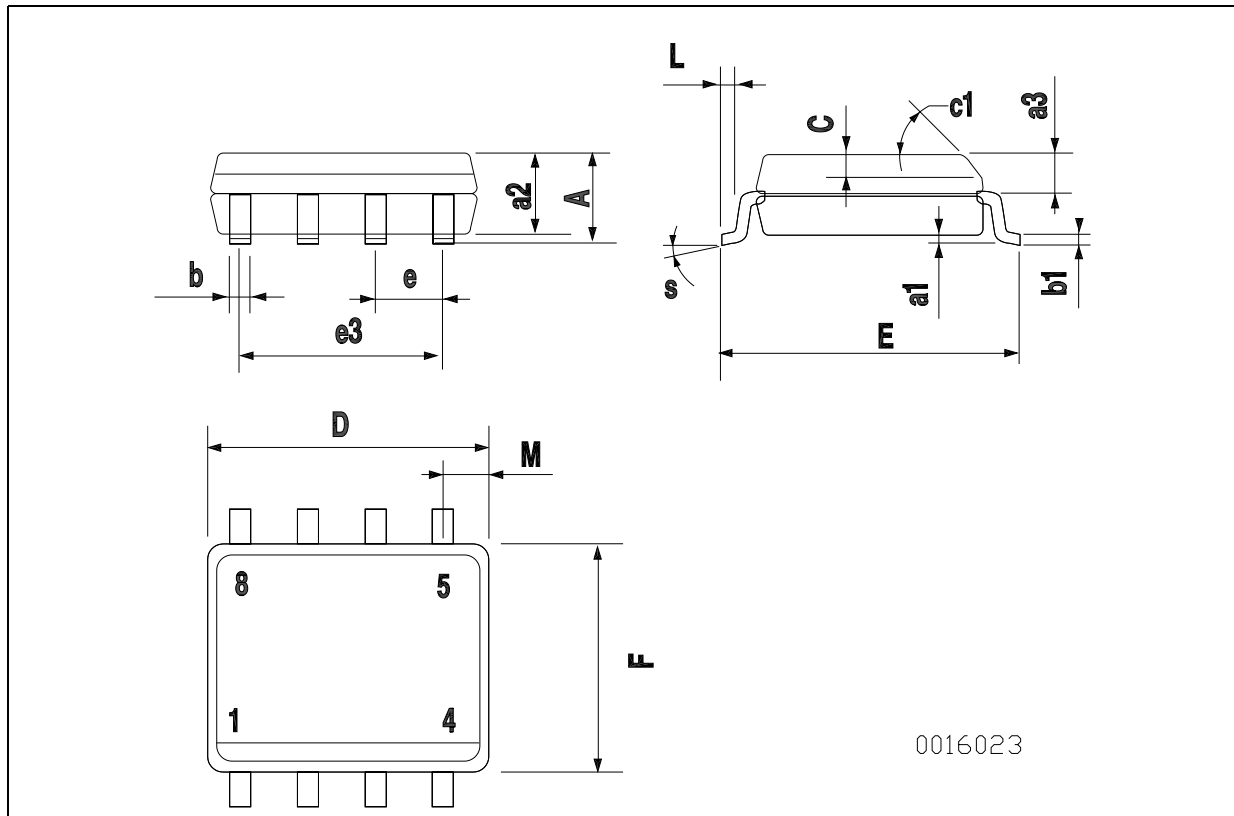
3 Package Mechanical Data

In order to meet environmental requirements, ST offers these devices in ECOPACK® packages. These packages have a Lead-free second level interconnect. The category of second Level Interconnect is marked on the package and on the inner box label, in compliance with JEDEC Standard JESD97. The maximum ratings related to soldering conditions are also marked on the inner box label. ECOPACK is an ST trademark. ECOPACK specifications are available at: www.st.com.

Table 2. SO-8 Mechanical Data

REF.	Dimensions					
	mm			inch		
	Min.	Typ.	Max.	Min.	Typ.	Max.
A	1.35		1.75	0.053		0.069
A1	0.10		0.25	0.04		0.010
A2	1.10		1.65	0.043		0.065
B	0.33		0.51	0.013		0.020
C	0.19		0.25	0.007		0.010
D	4.80		5.00	0.189		0.197
E	3.80		4.00	0.150		0.157
e		1.27			0.050	
H	5.80		6.20	0.228		0.244
h	0.25		0.50	0.010		0.020
L	0.40		1.27	0.016		0.050
k	8° (max.)					
ddd			0.1			0.04

Figure 3. SO-8 Package Dimension



4 Revision History

Date	Revision	Description of Change
12-Dec-2005	1	First Release

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