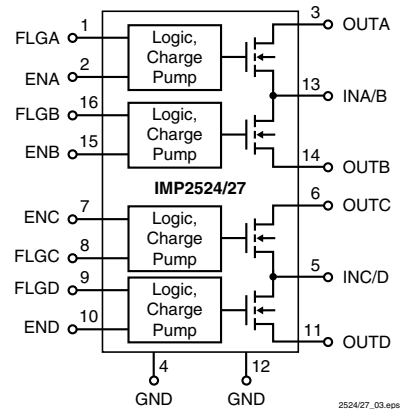
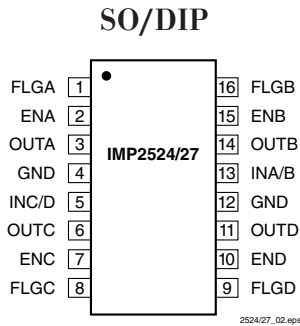


Pin Configuration



Pin Descriptions

Pin Number	Name	Function
1	FLGA	Fault Flag A output. This open-drain output goes into an active-LOW state in response to under-voltage, current limit or thermal shutdown conditions.
2	ENA	Enable A Input. This pin is the Channel B MOSFET switch driver control logic input. Both active-HIGH (-1 suffix) and active-LOW (-2 suffix) logic devices are available.
3	OUTA	Channel-A switch output (MOSFET Source). The output pin drives the load into ON and OFF states.
4	GND	Ground. Power supply return for the internal circuitry of the IC. Connect both pins 4 and 6 together.
5	INC/D	Channel C and D positive power supply input voltage. This is the switching MOSFET drain connection. It is the channel C and channel D supply voltage input for the logic and the charge-pump circuit.
6	OUTC	Channel-C switch output (MOSFET Source). The output pin drives the load into ON and OFF states.
7	ENC	Enable C Input. This pin is the Channel B MOSFET switch driver control logic input. Both active-HIGH (-1 suffix) and active-LOW (-2 suffix) logic devices are available.
8	FLGC	Fault Flag C output. This open-drain output goes into an active-LOW state in response to under-voltage, current limit or thermal shutdown conditions.
9	FLGD	Fault Flag D output. This open-drain output goes into an active-LOW state in response to under-voltage, current limit or thermal shutdown conditions.
10	END	Enable D Input. This pin is the Channel B MOSFET switch driver control logic input. Both active-HIGH (-1 suffix) and active-LOW (-2 suffix) logic devices are available.
11	OUTD	Channel-D switch output (MOSFET Source). The output pin drives the load into ON and OFF states.
12	GND	Ground. Power supply return for the internal circuitry of the IC. Connect both pins 4 and 6 together.
13	INA/B	Channel A and B positive power supply input voltage. This is the switching MOSFET drain connection. It is the channel A and channel B supply voltage input for the logic and the charge-pump circuit.
14	OUTB	Channel-B switch output (MOSFET Source). The output pin drives the load into ON and OFF states.
15	ENB	Enable B Input. This pin is the Channel-B MOSFET switch driver control logic input. Both active-HIGH (-1 suffix) and active-LOW (-2 suffix) logic devices are available.
16	FLGB	Fault Flag B output. This open-drain output goes into an active-LOW state in response to under-voltage, current limit or thermal shutdown conditions.

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Ordering Information

Pin Number	Enable Logic	Typical "ON" Resistance	Temperature Range	Pins-Package
IMP2524-1BWM	Active HIGH	100mΩ	-40° C to +85° C	16-SO
IMP2524-2BWM	Active LOW	100mΩ	-40° C to +85° C	16-SO
IMP2524-1BN	Active HIGH	100mΩ	-40° C to +85° C	16-DIP
IMP2524-2BN	Active LOW	100mΩ	-40° C to +85° C	16-DIP
IMP2527-1BWM	Active HIGH	200mΩ	-40° C to +85° C	16-SO
IMP2527-2BWM	Active LOW	200mΩ	-40° C to +85° C	16-SO
IMP2527-1BN	Active HIGH	200mΩ	-40° C to +85° C	16-DIP
IMP2527-2BN	Active LOW	200mΩ	-40° C to +85° C	16-DIP

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Absolute Maximum Ratings

Supply Voltage	+8.0V
Fault Flag Voltage	+8.0V
Fault Flag Current	50mA
Output Voltage	+8.0V
Output Current	Internally Limited
Enable Input	-0.3V to 12V
Storage Temperature	-65°C to +150°C
Lead Temperature (Soldering, 5 sec.)	260°C
Package Thermal Resistance	
SO (θ_{JA})	160°C/W
DIP(θ_{JA})	130°C/W

Note: All voltages are referenced to GND.

These are stress ratings only and functional operation is not implied. Exposure to absolute maximum ratings for prolonged time periods may affect device reliability.

Electrical Characteristics

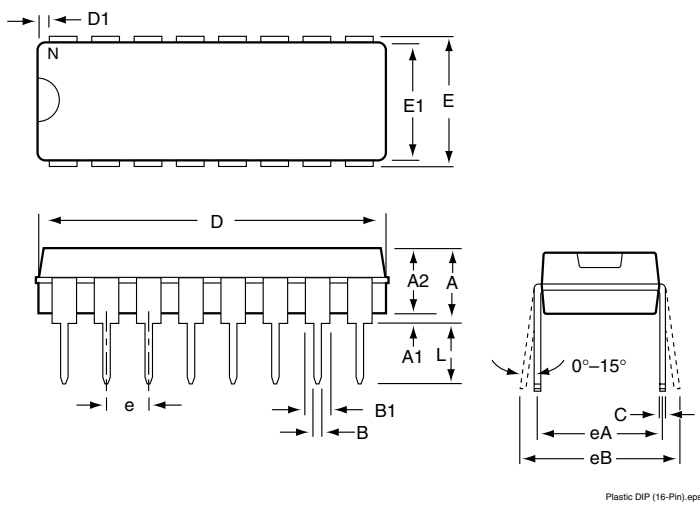
Unless otherwise noted, $V_{IN} = 5V$ and $T_A = 25^\circ C$.

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Supply Voltage Range	V_{IN}	$T_A = -40^\circ C$ to $+85^\circ C$	2.7		5.5	V
Operating Temperature Range	T_A		-40		85	$^\circ C$
Supply Current Switch OFF	$I_{IN\ OFF}$	Switch OFF, No load $V_{ENOFF} \leq 0.8V$, $V_{ENON} \geq 2.4V$ IMP2524/27-1 $V_{ENON} \leq 0.8V$, $V_{ENOFF} \geq 2.4V$ IMP2524/27-2		0.75	10	μA
Supply Current Switch ON	$I_{IN\ ON}$	Switch ON, No load $V_{ENOFF} \leq 0.8V$, $V_{ENON} \geq 2.4V$ IMP2524/27-1 $V_{ENON} \leq 0.8V$, $V_{ENOFF} \geq 2.4V$ IMP2524/27-2		110	320	μA
Enable Input Threshold	V_{ENH}	LOW to HIGH ("0" to "1") Enable Voltage, Note 1	0.8	2.1	2.4	V
	V_{ENL}	HIGH to LOW ("1" to "0") Enable Voltage, Note 1		1.9		
Enable Input Current	I_{EN}	$V_{EN} = 2.4V$		0.01	1	μA
		$V_{EN} = 0.8V$		0.01	1	μA
Enable Input Capacitance	C_{EN}			1		pF
Switch ON Resistance	R_{ON}	IMP2524: $I_{OUT} = 500mA$ each switch		0.10	0.14	Ω
		IMP2527: $I_{OUT} = 500mA$ each switch		0.20	0.30	Ω
Continuous Load Current	I_L	Each output	0.5			A
Output Turn-On Delay	T_{DON}	$R_L = 10\Omega$ each output		0.25		ms
Output Turn-On Rise Time	T_{RON}	$R_L = 10\Omega$ each output		1		ms
Output Turn-Off Delay	T_{DOFF}	$R_L = 10\Omega$ each output		1	20	μs
Output Turn-Off Fall Time	T_{FOFF}	$R_L = 10\Omega$ each output		1	20	μs
Output Leakage Current	I_{OFF}				10	μA
Short-circuit Current Limit	I_{SC}		0.50	0.75	1.25	A
Overtemperature Shutdown Threshold		T_J increasing		135		$^\circ C$
		T_J decreasing		125		$^\circ C$
Error Flag Output Resistance	R_{FLAG}	$V_{IN} = 5V$, $I_L = 10mA$		10		Ω
		$V_{IN} = 3.3V$, $I_L = 10mA$		15		Ω
Error Flag Output Current	I_{FLAG}	$V_{FLAG} = 5V$		0.01	1	μA
UVLO Threshold	V_{UVLO}	V_{IN} Increasing		2.5		V
		V_{IN} Decreasing		2.3		V

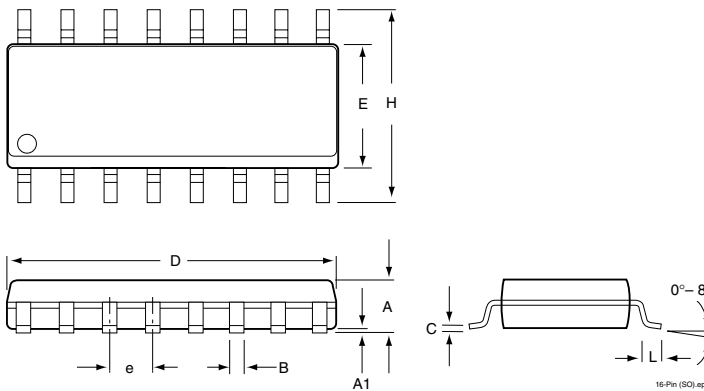
Notes 1. Switch OFF is $V_{EN} \leq 0.8V$ and Switch ON is $V_{EN} \geq 2.4V$ for the IMP2524/27-1. Switch OFF is $V_{EN} \geq 2.4V$ and Switch ON is $V_{EN} \leq 0.8V$ for the IMP2524/27-2. The Enable input has approximately 200mV of hysteresis.

Package Dimensions

Plastic DIP (16-Pin)



SO (16-Pin)



	Inches		Millimeters	
	Min	Max	Min	Max
Plastic DIP (16-Pin)*				
A	—	0.200	—	5.08
A1	0.015	—	0.38	—
A2	0.125	0.175	3.18	4.45
B	0.016	0.022	0.41	0.56
B1	0.045	0.065	1.14	1.65
C	0.008	0.012	0.20	0.30
D	0.745	0.765	18.92	19.43
D1	0.005	0.080	0.13	2.03
E	0.300	0.325	7.62	8.26
E1	0.240	0.310	6.10	7.87
e	0.100	—	2.54	—
eA	0.300	—	7.62	—
eB	—	0.400	—	10.16
L	0.115	0.150	2.92	3.81
SO (16-Pin)**				
A	0.926	0.1043	2.35	2.65
A1	0.0040	0.0118	0.10	0.30
B	0.013	0.020	0.33	0.51
C	0.0091	0.0125	0.23	0.32
D	0.3977	0.4133	10.10	10.50
E	0.2914	0.2662	7.40	7.60
e	0.050 BSC		1.27 BSC	
H	0.394	0.419	10.00	10.65
L	0.016	0.050	0.40	1.27

* JEDEC Drawing MO-058AB

** JEDEC Drawing MS-013AA

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