

General Purpose Power Distribution Switch Selection Guide

Micrel Advantage

- Highest Efficiency
- Highest Current Density
- Low $R_{DS\ ON}$
- Best CLS Performance

Device	Type	Switch Element	Internal Charge Pump	Operating Voltage	Current Limit Fixed (Min.)	Current Limit Adj. (Max.)	Output Resistance	Body Diode Blocking	Enable Logic	Under Voltage Lockout	Current Limit	Thermal Shutdown	Fault Flag	Flag Transient Filter	Package
MIC2003/13	Single	P-Channel	n/a	2.5V to 5.5V	500mA	800mA	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	No	Yes	SOT-23-5, MLF® (2x2mm)
MIC2004/14	Single	P-Channel	n/a	2.5V to 5.5V	500mA	800mA	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	No	Yes	SOT-23-5, MLF® (2x2mm)
MIC2005/15	Single	P-Channel	n/a	2.5V to 5.5V	500mA	800mA	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	Yes	Yes	SOT-23-5, SOT-23-6 MLF® (2x2mm)
MIC2005A	Single	P-Channel	n/a	2.5V to 5.5V	500mA		170mΩ@5V	No	Noninverting	Yes	Yes	Yes	Yes	Yes	SOT-23-5, SOT-23-6
MIC2009A	Single	P-Channel	n/a	2.5V to 5.5V	100mA-0.9A		170mΩ@5V	No	Noninverting	Yes	Yes	Yes	Yes	Yes	SOT-23-6
MIC2005L	Single	P-Channel	n/a	2.5V to 5.5V	500mA	800mA	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	Yes	Yes	SOT-23-5
MIC2006/16	Single	P-Channel	n/a	2.5V to 5.5V	500mA	800mA	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	No	Yes	SOT-23-6, MLF® (2x2mm)
MIC2007/17	Single	P-Channel	n/a	2.5V to 5.5V	200mA	2.0A	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	No	Yes	SOT-23-6, MLF® (2x2mm)
MIC2008/18	Single	P-Channel	n/a	2.5V to 5.5V	200mA	2.0A	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	No	Yes	SOT-23-6, MLF® (2x2mm)
MIC2009/19	Single	P-Channel	n/a	2.5V to 5.5V	200mA	2.0A	100mΩ@5V	No	Noninverting	Yes	Yes	Yes	Yes	Yes	SOT-23-6, MLF® (2x2mm)
MIC2025-1	Single	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, MSOP-8, PDIP-8
MIC2025-2	Single	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, MSOP-8
MIC2026-1	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, PDIP-8
MIC2026-2	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, PDIP-8
MIC2026A-1	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, PDIP-8
MIC2026A-2	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, PDIP-8
MIC2027-1	Quad	N-Channel	Yes	2.7V to 5.5V	500mA		150mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-16, WSOIC-16, PDIP-8
MIC2027-2	Quad	N-Channel	Yes	2.7V to 5.5V	500mA		150mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-16, WSOIC-16, PDIP-8
MIC2040-1	Single	N-Channel	Yes	0.8V to 5.5V	250mA	1.5A	80mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	MSOP-10
MIC2040-2	Single	N-Channel	Yes	0.8V to 5.5V	250mA	1.5A	80mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	MSOP-10

General Purpose Power Distribution Switch Selection Guide

(Continued)

Device	Type	Switch Element	Internal Charge Pump	Operating Voltage	Current Limit		Output Resistance	Body Diode Blocking	Enable Logic	Under Voltage			Fault Flag	Flag Transient Filter	Package
					Fixed (Min.)	Adj. (Max.)				Lockout	Current Limit	Thermal Shutdown			
MIC2041-1	Single	N-Channel	Yes	0.8V to 5.5V	250mA	1.5A	80mΩ@5V	Yes	Noninverting	Yes	Latched	Yes	Yes	Yes	MSOP-10
MIC2041-2	Single	N-Channel	Yes	0.8V to 5.5V	250mA	1.5A	80mΩ@5V	Yes	Inverting	Yes	Latched	Yes	Yes	Yes	MSOP-10
MIC2042-1	Single	N-Channel	Yes	0.8V to 5.5V	500mA	3.0A	40mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, TSSOP-14
MIC2042-2	Single	N-Channel	Yes	0.8V to 5.5V	500mA	3.0A	40mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-8, TSSOP-14
MIC2043-1	Single	N-Channel	Yes	0.8V to 5.5V	500mA	3.0A	40mΩ@5V	Yes	Noninverting	Yes	Latched	Yes	Yes	Yes	SOIC-8, TSSOP-14
MIC2043-2	Single	N-Channel	Yes	0.8V to 5.5V	500mA	3.0A	40mΩ@5V	Yes	Inverting	Yes	Latched	Yes	Yes	Yes	SOIC-8, TSSOP-14
MIC2044-1	Single	N-Channel	Yes	0.8V to 5.5V	1.0A	6.0A	20mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	TSSOP-16
MIC2044-2	Single	N-Channel	Yes	0.8V to 5.5V	1.0A	6.0A	20mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	TSSOP-16
MIC2045-1	Single	N-Channel	Yes	0.8V to 5.5V	1.0A	6.0A	20mΩ@5V	Yes	Noninverting	Yes	Latched	Yes	Yes	Yes	TSSOP-16
MIC2045-2	Single	N-Channel	Yes	0.8V to 5.5V	1.0A	6.0A	20mΩ@5V	Yes	Inverting	Yes	Latched	Yes	Yes	Yes	TSSOP-16
MIC2075-1	Single	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	SOIC-8, MSOP-8
MIC2075-2	Single	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	SOIC-8, MSOP-8, PDIP-8
MIC2076-1	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	SOIC-8, PDIP-8
MIC2076-2	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	SOIC-8, PDIP-8
MIC2076A-1	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	SOIC-8
MIC2076A-2	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	SOIC-8
MIC2077-1	Quad	N-Channel	Yes	2.7V to 5.5V	500mA		150mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	SOIC-16, WSOIC-16
MIC2077-2	Quad	N-Channel	Yes	2.7V to 5.5V	500mA		150mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	SOIC-16, WSOIC-16
MIC2095-1	Single	P-Channel	N/A	2.5V to 5.5V	500mA		275mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2095-2	Single	P-Channel	N/A	2.5V to 5.5V	500mA		275mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2097-1	Single	P-Channel	N/A	2.5V to 5.5V		1.1A	275mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2097-2	Single	P-Channel	N/A	2.5V to 5.5V		1.1A	275mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2098-1	Single	P-Channel	N/A	2.5V to 5.5V	900mA		275mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2098-2	Single	P-Channel	N/A	2.5V to 5.5V	900mA		275mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2099-1	Single	P-Channel	N/A	2.5V to 5.5V		1.1A	275mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2099-2	Single	P-Channel	N/A	2.5V to 5.5V		1.1A	275mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	Thin MLF [®] -6 (1.6x1.6mm)
MIC2505	Single	N-Channel	Yes	2.7V to 7.5V	2.0A		50mΩ@5V	Yes	Noninverting		Yes	Yes	Yes	Yes	SOIC-8, PDIP-8
MIC2505-1	Single	N-Channel	Yes	2.7V to 7.5V	2.0A		50mΩ@5V	Yes	Noninverting		Yes	Yes	Yes	Yes	SOIC-8
MIC2505-2	Single	N-Channel	Yes	2.7V to 7.5V	2.0A		50mΩ@5V	Yes	Inverting		Yes	Yes	Yes	Yes	SOIC-8
MIC2506	Dual	N-Channel	Yes	2.7V to 7.5V	1.0A		125mΩ@5V	Yes	Noninverting		Yes	Yes	Yes	Yes	SOIC-8
MIC2514	Single	P-Channel	Yes	3V to 13.5V	400mA		2.4Ω@5V		Noninverting		Yes	Yes			SOT-23-5
MIC2536-1	Dual	N-Channel	Yes	2.7V to 5.5V	100mA		700mΩ@5V	Yes	Noninverting		Yes	Yes	Yes	Yes	SOIC-8, MSOP-8
MIC2536-2	Dual	N-Channel	Yes	2.7V to 5.5V	100mA		700mΩ@5V	Yes	Inverting		Yes	Yes	Yes	Yes	SOIC-8, MSOP-8
MIC2537-1	Quad	N-Channel	Yes	2.7V to 5.5V	100mA		700mΩ@5V	Yes	Noninverting		Yes	Yes	Yes		SOIC-16
MIC2537-2	Quad	N-Channel	Yes	2.7V to 5.5V	100mA		700mΩ@5V	Yes	Inverting		Yes	Yes	Yes		SOIC-16
MIC2544-1	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Yes	Yes		SOIC-8, MSOP-8
MIC2544-2	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Yes	Yes		SOIC-8, MSOP-8
MIC2544A-1	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Yes	Yes		SOIC-8, MSOP-8
MIC2544A-2	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Yes	Yes		SOIC-8, MSOP-8
MIC2545A-1	Single	N-Channel	Yes	2.7V to 5.5V	500mA	3.0A	50mΩ@5V	Yes	Noninverting		Yes	Yes	Yes		SOIC-8, PDIP-8, TSSOP-14
MIC2545A-2	Single	N-Channel	Yes	2.7V to 5.5V	500mA	3.0A	50mΩ@5V	Yes	Inverting		Yes	Yes	Yes		SOIC-8, PDIP-8, TSSOP-14
MIC2546-1	Dual	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Yes	Yes		SOIC-16, TSSOP-16
MIC2546-2	Dual	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Yes	Yes		SOIC-16, TSSOP-16
MIC2547-1	Dual	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Latched	Yes		SOIC-16, TSSOP-16
MIC2547-2	Dual	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Latched	Yes		SOIC-16, TSSOP-16
MIC2548-1	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Latched	Yes		SOIC-8, MSOP-8
MIC2548-2	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Latched	Yes		SOIC-8, MSOP-8
MIC2548A-1	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Noninverting		Yes	Latched	Yes		SOIC-8, MSOP-8
MIC2548A-2	Single	N-Channel	Yes	2.7V to 5.5V	100mA	1.5A	120mΩ@5V	Yes	Inverting		Yes	Latched	Yes		SOIC-8, MSOP-8
MIC2549A-1	Single	N-Channel	Yes	2.7V to 5.5V	500mA	3.0A	50mΩ@5V	Yes	Noninverting		Yes	Latched	Yes		SOIC-8, PDIP-8, TSSOP-14
MIC2549A-2	Single	N-Channel	Yes	2.7V to 5.5V	500mA	2.5A	50mΩ@5V	Yes	Inverting		Yes	Latched	Yes		SOIC-8, PDIP-8, TSSOP-14

General Purpose Power Distribution Switch Selection Guide

USB Switches and USB Switches Supporting ACPI S0/S3 State Transitions⁽¹⁾

Device	Type	Switch Element	Internal Charge Pump	Operating Voltage	Current Limit		Output Resistance	Body Diode Blocking	Enable Logic	Under Voltage Lockout	Current Limit	Thermal Shutdown	Fault Flag	Flag Transient Filter	Package
					Fixed (Min.)	Adj. (Max.)									
MIC2010-1	Dual	N-Channel	Yes	4.5V to 5.5V	500mA	300mA ⁽²⁾	140mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	QSOP-16
MIC2010-2	Dual	N-Channel	Yes	4.5V to 5.5V	500mA	300mA ⁽²⁾	140mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	QSOP-16
MIC2012-1	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	QSOP-16
MIC2012-2	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	QSOP-16
MIC2012	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	—	Yes	Yes	Yes	Yes	Yes	SOIC-8
MIC2070-1	Dual	N-Channel	Yes	4.5V to 5.5V	500mA	300mA ⁽²⁾	140mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	QSOP-16
MIC2070-2	Dual	N-Channel	Yes	4.5V to 5.5V	500mA	300mA ⁽²⁾	140mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	QSOP-16
MIC2072-1	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	Noninverting	Yes	Yes	Latched	Yes	Yes	QSOP-16
MIC2072-2	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	Inverting	Yes	Yes	Latched	Yes	Yes	QSOP-16
MIC2072	Dual	N-Channel	Yes	4.5V to 5.5V	500mA		140mΩ@5V	Yes	—	Yes	Yes	Latched	Yes	Yes	SOIC-8
MIC2073	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		210mΩ@5V	Yes	Noninverting	Yes	Yes	Yes	Yes	Yes	SOIC-8
MIC2074	Dual	N-Channel	Yes	2.7V to 5.5V	500mA		210mΩ@5V	Yes	Inverting	Yes	Yes	Yes	Yes	Yes	SOIC-8

1. Contact factory for availability of specific options. Specifications are given for "MAIN" mode operation.

2. S3 State.

USB Transceiver Selection Guide

Device	Description	Supported Speeds	Package
MIC2550	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	TSSOP-14, MLF [®] -16
MIC2550A ⁽¹⁾	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	TSSOP-14, MLF [®] -16
MIC2550A-2.5 ⁽¹⁾	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	MLF [®] -14 (2.5x2.5mm)
MIC2551	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	TSSOP-14, MLF [®] -16
MIC2551A ⁽¹⁾	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	TSSOP-14, MLF [®] -16
MIC2551A-2.5 ⁽¹⁾	Universal Serial Bus Transceiver	1.5Mbps (low) and 12Mbps (full)	MLF [®] -14 (2.5 x 2.5mm)
MIC2555 ⁽¹⁾	Universal Serial Bus On-The-Go (OTG) Transceiver	1.5Mbps (low) and 12Mbps (full)	MLF [®] -24 (4 x 4mm)

1. Recommended for new designs.

USB Power Management Selection Guide

Device	Description	V _{IN}	V _{OUT}	I _{SW} ⁽¹⁾ (Avg)(Max)	Frequency	Package
MIC2267 New!	Input Current Limiting Synchronous Buck Regulator USB Power Maximizer™	3.0V to 5.5V	Adj. to 1V	1.6A	400kHz-1.5MHz	MLF [®] -12 (3 x 3mm)

1. I_{SW} (Avg) refers to the average current flowing through the switch.