

MOSFET Driver Selection Guide

Device	Function	Type	Logic	Sink/Source Peak Output	Sink/Source Output Impedance	t_r/t_f	t_{pd} (input rising/falling)	Supply Voltage	Package	Comments
Half-Bridge Drivers										
MIC4100	Half-Bridge MOSFET Driver	Dual	Non-Inverting (CMOS)	2A/2A	2.5Ω/2.5Ω	10ns into 1000pF	27ns into 1,000pF	up to 100V	SOIC-8, MLF-8 (3x3mm) ⁽¹⁾	Hysteresis on input pins for noisy or slow signals.
MIC4101	Half-Bridge MOSFET Driver	Dual	Non-Inverting (TTL)	2A/2A	2.5Ω/2.5Ω	10ns into 1000pF	27ns into 1,000pF	up to 100V	SOIC-8, MLF-8 (3x3mm) ⁽¹⁾	Level shift between V_{IN} signal and V_{DD} supply voltage.
MIC4102	High-Voltage Sync. Buck Driver	Dual	Non-Inverting (TTL)	3A/2A	1.5Ω/2.5Ω	10ns/6ns into 1000pF	27ns into 1,000pF	up to 100V	SOIC-8, MLF-8 (3x3mm) ⁽¹⁾	Embedded Anti-Shoot through Protection.
MIC4103	Half-Bridge MOSFET Driver	Dual	Non-Inverting (CMOS)	3A/2A	1.25Ω/2.5Ω	10ns/6ns into 1000pF	27ns into 1,000pF	up to 100V	SOIC-8, MLF-8 (3x3mm) ⁽¹⁾	
MIC4104	Half-Bridge MOSFET Driver	Dual	Non-Inverting (TTL)	3A/2A	1.25Ω/2.5Ω	10ns/6ns into 1000pF	27ns into 1,000pF	up to 100V	SOIC-8, MLF-8 (3x3mm) ⁽¹⁾	
Low-Side Drivers										
MIC4120 ⁽²⁾	Low-Side Driver	Single	Non-Inverting	6A	1.5Ω	12ns/13ns into 2500pF	45ns/50ns into 2,500pF	4.5V to 20V	EPAD-SOIC-8, MLF-8 (3x3mm)	MIC4420 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4123 ⁽²⁾	Low-Side Driver	Dual	Inverting	3A	2.2Ω	23ns/25ns into 1800pF	44ns/59ns into 1,800pF	4.5V to 20V	EPAD-SOIC-8, MLF-8 (4x4mm)	MIC4423 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4124 ⁽²⁾	Low-Side Driver	Dual	Non-Inverting	3A	2.2Ω	23ns/25ns into 1800pF	44ns/59ns into 1,800pF	4.5V to 20V	EPAD-SOIC-8, MLF-8 (4x4mm)	MIC4424 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4125 ⁽²⁾	Low-Side Driver	Dual	Inverting + Non-Inverting	3A	2.2Ω	23ns/25ns into 1800pF	44ns/59ns into 1,800pF	4.5V to 20V	EPAD-SOIC-8, MLF-8 (4x4mm)	MIC4425 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4126 ⁽²⁾	Low-Side Driver	Dual	Inverting	1.5A	6Ω	13ns/15ns into 1000pF	37ns/40ns into 1000pF	4.5V to 20V	EPAD-SOIC-8, EPAD-MSOP-8, MLF-8 (3x3mm)	MIC4426 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4127 ⁽²⁾	Low-Side Driver	Dual	Non-Inverting	1.5A	6Ω	13ns/15ns into 1000pF	37ns/40ns into 1000pF	4.5V to 20V	EPAD-SOIC-8, EPAD-MSOP-8, MLF-8 (3x3mm)	MIC4427 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4128 ⁽²⁾	Low-Side Driver	Dual	Inverting + Non-Inverting	1.5A	6Ω	13ns/15ns into 1000pF	37ns/40ns into 1000pF	4.5V to 20V	EPAD-SOIC-8, EPAD-MSOP-8, MLF-8 (3x3mm)	MIC4428 upgrade; Advanced packaging; Higher input voltage; Input pulsedown to 50ns.
MIC4129 ⁽²⁾	Low-Side Driver	Single	Inverting	6A	1.5Ω	12ns/13ns into 2500pF	45ns/50ns into 2,500pF	4.5V to 20V	EPAD SOIC-8, MLF-8 (3x3mm)	MIC4429 upgrade; Advanced packaging; Higher input voltage; Input pulse down to 50ns.
MIC4416	Low-Side Driver	Single	Non-Inverting	1.2A	7.6Ω/7.8Ω	24ns/28ns into 1000pF	42ns into 1,000pF	4.5V to 18V	SOT-143	IttyBitty® Device.
MIC4417	Low-Side Driver	Single	Inverting	1.2A	7.6Ω/7.8Ω	24ns/28ns into 1000pF	37ns into 1,000pF	4.5V to 18V	SOT-143	IttyBitty® Device.
MIC44F18	N-Channel MOSFET Driver	Single	Non-Inverting (TTL)	6A	2Ω	10ns/10ns into 1000pF	15ns/13ns into 1000pF	4.5V to 13.2V	MLF-8 (2x2mm), EPAD MSOP-8	High Speed; small, thermally efficient package.
MIC44F19	P-Channel MOSFET Driver	Single	Inverting (TTL)	6A	2Ω	10ns/10ns into 1000pF	15ns/13ns into 1000pF	4.5V to 13.2V	MLF-8 (2x2mm), EPAD MSOP-8	High Speed; small, thermally efficient package.
MIC44F20	N-Channel MOSFET Driver	Single	Inverting (TTL)	6A	2Ω	10ns/10ns into 1000pF	15ns/13ns into 1000pF	4.5V to 13.2V	MLF-8 (2x2mm), EPAD MSOP-8	High Speed; small, thermally efficient package.
MIC4420	Low-Side Driver	Single	Non-Inverting	6A	1.7Ω/1.5Ω	12ns/13ns into 2500pF	18ns/48ns into 2500pF	4.5V to 18V	SOIC-8, MSOP-8, PDIP-8, TO-220-5, CerDIP-8 ⁽³⁾	Drives Hex 6–Hex 7 Size. MOSFET: 1,500pF to 16,000pF; Latch-Up Protected; Input to –5V.
MIC4429	Low-Side Driver	Single	Inverting	6A	1.7Ω/1.5Ω	12ns/13ns into 2500pF	18ns/48ns into 2500pF	4.5V to 18V	SOIC-8, MSOP-8, PDIP-8, TO-220-5	Drives a Hex 6–Hex 7 Size. MOSFET: 1,500pF to 16,000pF; Latch-Up Protected; Input to –5V.
MIC4421	Low-Side Driver	Single	Inverting	9A	0.8Ω/0.6Ω	20ns/24ns into 10nF	15ns/35ns into 10nF	4.5V to 18V	PDIP-8, SOIC-8, TO-220-5	Drives 1,500pF to 47,000pF; Latch-Up Protected; Input to –5V.
MIC4422 ⁽²⁾	Low-Side Driver	Single	Non-inverting	9A	0.8Ω/0.6Ω	20ns/24ns into 10nF	15ns/35ns into 10nF	4.5V to 18V	PDIP-8, SOIC-8, TO-220-5	Drives 1,500pF to 47,000pF; Latch-Up Protected; Input to –5V.

1. Contact factory for MLF® availability.
2. Recommended for new designs.
3. SMD (military) 5962-8877003PA.

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				Peak Output	Output Impedance					
MIC4423	Low-Side Driver	Dual	Inverting	3A	3.8Ω/3.5Ω	23ns/25ns into 1800pF	33ns/38ns into 1800pF	4.5V to 18V	SOIC-8, WSOIC-16, PDIP-8	Drives Hex 4–Hex 5 Size. MOSFET: 6,000pF to 12,000pF; Latch-Up Protected; Input to –5V.
MIC4424	Low-Side Driver	Dual	Non-inverting	3A	3.8Ω/3.5Ω	23ns/25ns into 1800pF	33ns/38ns into 1800pF	4.5V to 18V	SOIC-8, WSOIC-16, PDIP-8, CerDIP ⁽⁵⁾	Drives a Hex 4–Hex 5 Size. MOSFET: 6,000pF to 12,000pF; Latch-up Protected; Input to –5V.
MIC4425	Low-Side Driver	Dual	Inverting + Non-Inverting	3A	3.8Ω/3.5Ω	23ns/25ns into 1800pF	33ns/38ns into 1800pF	4.5V to 18V	SOIC-8, -16, PDIP-8	Drives a Hex 4–Hex 5 Size. MOSFET: 6,000pF to 12,000pF; Latch-up Protected; Input to –5V.
MIC4426	Low-Side Driver	Dual	Inverting	1.5A	6Ω	18ns/15ns into 1000pF	17ns/23ns into 1000pF	4.5V to 18V	SOIC-8, MSOP-8, PDIP-8, CerDIP-8 ⁽⁶⁾	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC4427	Low-Side Driver	Dual	Non-inverting	1.5A	6Ω	18ns/15ns into 1000pF	17ns/23ns into 1000pF	4.5V to 18V	SOIC-8, MSOP-8, PDIP-8, CerDIP-8 ⁽⁷⁾	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC4428	Low-Side Driver	Dual	Inverting + Non-Inverting	1.5A	6Ω	18ns/15ns into 1000pF	17ns/23ns into 1000pF	4.5V to 18V	SOIC-8 MSOP-8, PDIP-8, CerDIP-8 ⁽⁸⁾	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC4451 MIC4451A ⁽⁴⁾	Low-Side Driver	Single	Inverting	12A	0.8Ω/0.6Ω	20ns/24ns into 15nF	15ns/35ns into 15nF	4.5V to 18V	SOIC-8, PDIP-8, TO-220-5	Drives 1,500pF to 62,000pF; Latch-up Protected; Input to –5V.
MIC4452 MIC4452A ⁽⁴⁾	Low-Side Driver	Single	Non-inverting	12A	0.8Ω/0.6Ω	20ns/24ns into 15nF	15ns/35ns into 15nF	4.5V to 18V	SOIC-8, PDIP-8, TO-220-5	Drives 1,500pF to 62,000pF; Latch-up Protected; Input to –5V.
MIC4467	Low-Side Driver	Quad	Non-inverting NAND Inputs	1.2A	5Ω	14ns/13ns into 470pF	30ns/45ns into 470pF	4.5V to 18V	WSOIC-16, PDIP-14	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC4468	Low-Side Driver	Quad	Non-inverting AND Inputs	1.2A	5Ω	14ns/13ns into 470pF	30ns/45ns into 470pF	4.5V to 18V	WSOIC-16, PDIP-14	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC4469	Low-Side Driver	Quad	Inverting + Non-inverting AND Inputs	1.2A	5Ω	14ns/13ns into 470pF	30ns/45ns into 470pF	4.5V to 18V	WSOIC-16, PDIP-14, CerDIP-14 ⁽⁹⁾	Drives a Hex 0–Hex 3 Size. MOSFET: 400pF to 3,000pF; Latch-up Protected; Input to –5V.
MIC5011	High- or Low-Side Driver	Single	Non-inverting	–	–	60μs into 1,000pF		4.75V to 32V	SOIC-8, PDIP-8	External Charge Pump. Capacitors (opt.).
MIC5013	High- or Low-Side Driver	Single	Non-inverting	–	–	60μs into 1,000pF		7V to 32V	SOIC-8, PDIP-8	Current Sense, Fault.
MIC5014	High- or Low-Side Driver	Single	Non-inverting	–	–	90μs into 1,000pF		2.75V to 30V	SOIC-8, PDIP-8	
MIC5015	High- or Low-Side Driver	Single	Inverting	–	–	90μs into 1,000pF		2.75V to 30V	SOIC-8, PDIP-8	
MIC5016 ⁽¹⁰⁾	High- or Low-Side Driver	Dual	Non-inverting	–	–	90μs into 1,000pF		2.75V to 30V	WSOIC-16, PDIP-14	
MIC5017 ⁽¹⁰⁾	High- or Low-Side Driver	Dual	Inverting	–	–	90μs into 1,000pF		2.75V to 30V	WSOIC-16, PDIP-14	
MIC5018	High- or Low-Side Driver	Single	Non-inverting	–	–	2.1ms into 3,000pF		2.7V to 9V	SOT-143	IttyBitty [®] Device.
MIC5020	Complementary Low-Side Driver	Single	Non-inverting	–	–	1.1μs into 1,500pF		11V to 50V	SOIC-8	Complement to MIC5021 (Similar Performance), Current Sense (50mV nominal).
MIC5021	High-Speed High-Side Driver	Single	Non-inverting	–	–	0.9μs into 1,500pF		12V to 36V	SOIC-8, PDIP-8	Current Sense (50mV nominal).

4. Recommended for new designs.

5. SMD (military) 5962-8850305PA.

6. SMD (military) 5962-8850307PA.

7. SMD (military) 5962-8850308PA.

8. SMD (military) 5962-8850309PA.

9. SMD (military) 5962-9459403MCA.

10. Product family discontinuance announced effective June 3, 2005. Recommended Micrel alternatives; two each MIC5014 and two each MIC5015.