

IR Build instruction for 8-pin half bridge driver ICs

This instruction is compatible with the following ICs

- IR2101S, IR2103S, IR2104S, IR2106S, IR2108S, IR2109S
- IR2181S, IR2183S, IR2184S
- IR2301S, IR2304S

Schematics (.dsn)
PCB Layout (OrCad)

BOM

Part Type	Designator	Description	Order Number	Vendor
.33μF, 25V	C1	Capacitor, 1206	PCC1889CT-ND	Digikey
.33μF, 25V	C2	Capacitor, 1206	PCC1889CT-ND	Digikey
.1μF, 630V	C3	Polypropylene Capacitor	P3521-ND	Digikey
25V, 1A	D11	DIODE SCHOTTKY 25V 1.0A MINI-2P	MA2YD2300LCT-ND	Digikey
25V, 1A	D21	DIODE SCHOTTKY 25V 1.0A MINI-2P	MA2YD2300LCT-ND	Digikey
600V, 1A	D22	Fast Recovery Diode, SMB	MURS120DICT-ND	Digikey
600V, 23A IGBT	Q1	IGBT UFAST 600V 23A TO-220AB	IRG4BC30U-ND	Digikey
600V, 23A IGBT	Q2	IGBT UFAST 600V 23A TO-220AB	IRG4BC30U-ND	Digikey
33 Ohm	R11	Resistor, 0805	P33ACT-ND	Digikey
3 Ohm	R12	Resistor, 0805	P3ACT-ND	Digikey
33 Ohm	R21	Resistor, 0805	P33ACT-ND	Digikey
3 Ohm	R22	Resistor, 0805	P3ACT-ND	Digikey
4.7 Ohm	R1	Resistor, 0805	P4.7ACT-ND	Digikey
HI/LO Side Driver	U3	HI/LO SIDE DRVR 8SOIC	IR2101S*	IR

* U3 can be any compatible ICs from the list above

MOSEFT and Resistor Choice

IC	FETS/IGBT	Rg-on	Rg-off	Ton(nS)	Toff (nS)	Tr(nS)	Tf(nS)	Vbus(V)
IR2101	IRFIBC20G	33	3.3	222	210	12	12	300
IR2101	IRG4BC20UD	33	3.3	236	220	12.8	13.2	300
IR2101	IRG4BC30UD	33	3.3	259	242	15.6	20	300

