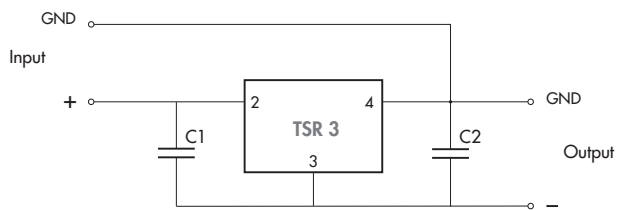


Application note for negative output voltage

External circuit for negative output voltage



C1, C2 = 10 μ F (MLCC) are required and must be placed close to the converter.

Input / Output specifications

Order code	Input voltage range	Output voltage range	Output current max.	Efficiency typ.
TSR 3-1250	4.7 – 13 VDC ¹⁾	-0.6 to -6.0 VDC	1.5 A at $ V_{out} > 3.3$ VDC 2.2 A at $ V_{out} < 3.3$ VDC	90 % (at -3.3 Vout)
TSR 3-2450	10 – 27 VDC ²⁾	-3.0 to -6.0 VDC	2.2 A	90 % (at -5.0 Vout)
TSR 3-24150	10 – 25 VDC ²⁾	-5.0 to -15 VDC	1.2 A	91 % (at -12 Vout)

1) Max. input voltage = 14 - $|V_{out}|$

2) Max. input voltage = 30 - $|V_{out}|$

Additional Specifications

No load input current	– negative output circuit	TSR 3-24150: 60 mA typ. other models: 35 mA typ.
Reflected ripple current	– negative output circuit	30 mA typ.
Capacitive load	– negative output circuit	TSR 3-1250: 780 μ F max. TSR 3-2450: 2200 μ F max. TSR 3-24150: 580 μ F max.