

Foldback Current Limiting

The VI-/MI-200 modules with output voltages of 5V or 3.3V incorporate foldback current limiting. (Figure 4.1) In this mode, the output voltage remains constant up to the current knee, (I_C), which is 5 – 25% greater than full-rated current, (I_{MAX}). Beyond I_C , the output voltage falls along the vertical line I_C-I_{FB} until approximately 2V. At $\leq 2V$, the voltage and current folds back to short circuit current (20 – 80% of I_{MAX}). Typically, modules will automatically recover when overcurrent is removed.

When bench testing modules with foldback current limiting, use a constant resistance load as opposed to a constant current load. Some constant current loads have the ability to pull full current at near zero volts. This may cause a latchup condition. Also when performing a short circuit test it is recommended to use a mercury wetted relay to induce the output short as other methods may induce switch bounce that could potentially damage the converter.

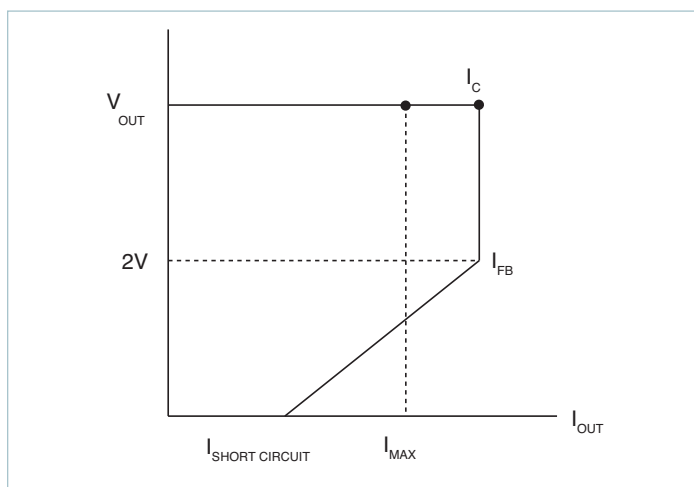


Figure 4.1 — Foldback current limiting

Straight Line Current Limiting

The VI-/MI-200 modules with output voltages greater than 5V, 2V (VI-/MI-200 only) and all VI-/MI-J00 modules incorporate a straight-line type current limit. (Figure 4.2) As output current is increased beyond I_{MAX} , the output voltage remains constant and within its specified limits up to a point, I_C , which is 5 – 25% greater than rated current, (I_{MAX}). Beyond I_C , the output voltage falls along the vertical line to I_{SC} . Typically, modules will automatically recover after overcurrent is removed.

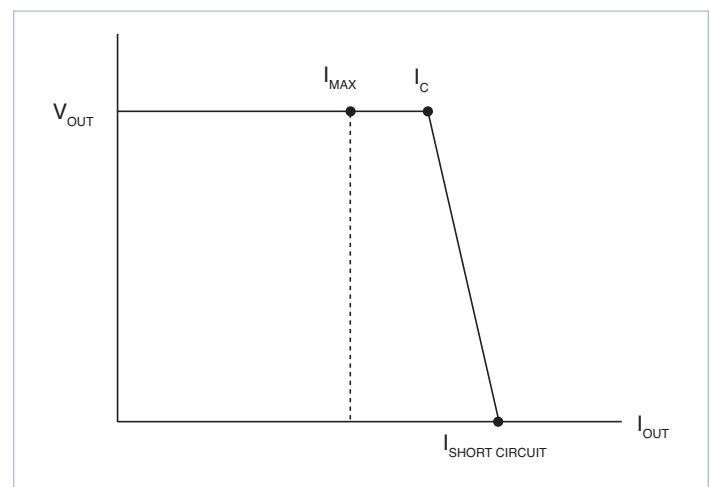


Figure 4.2 — Straight-line current limiting