

### 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.

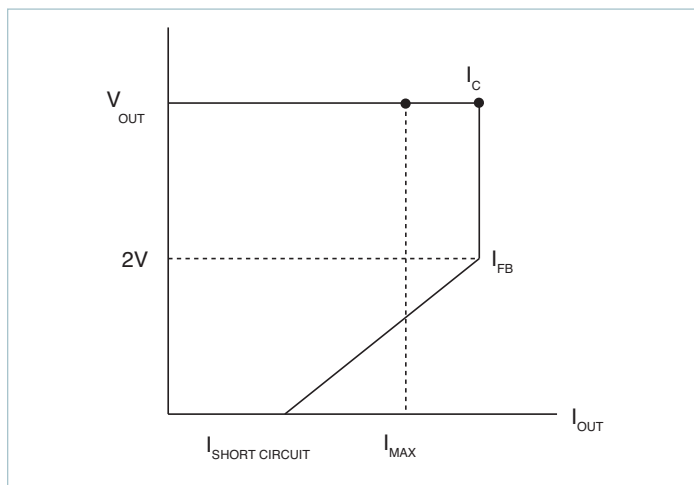


Figure 4.1 — Foldback current limiting

### 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.

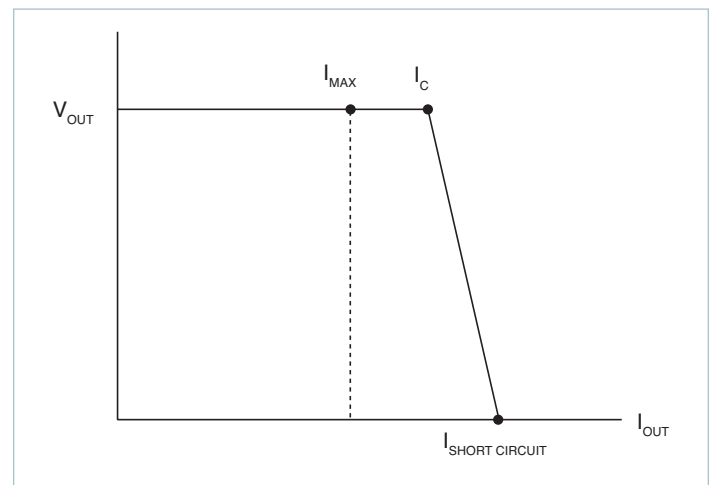


Figure 4.2 — Straight-line current limiting