FOLDBACK CURRENT LIMITING

The VI-/MI-200 modules with output voltages of 5 V or 3.3 V incorporate foldback current limiting. (Figure 4–1) In this mode, the output voltage remains constant up to the current knee, (Ic), which is 5 – 25% greater than full-rated current, (Imax). Beyond Ic, the output voltage falls along the vertical line Ic– Ifb until approximately 2 V. At ≤2 V, the voltage and current folds back to short circuit current point (20 – 80% of Imax). 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.

STRAIGHT LINE CURRENT LIMITING

The VI-/MI-200 modules with output voltages greater than 5 V, 2 V (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 Imax, the output voltage remains constant and within its specified limits up to a point, Ic, which is 5 – 25% greater than rated current, (Imax). Beyond Ic, the output voltage falls along the vertical line to Isc. Typically, modules will automatically recover after overcurrent is removed.

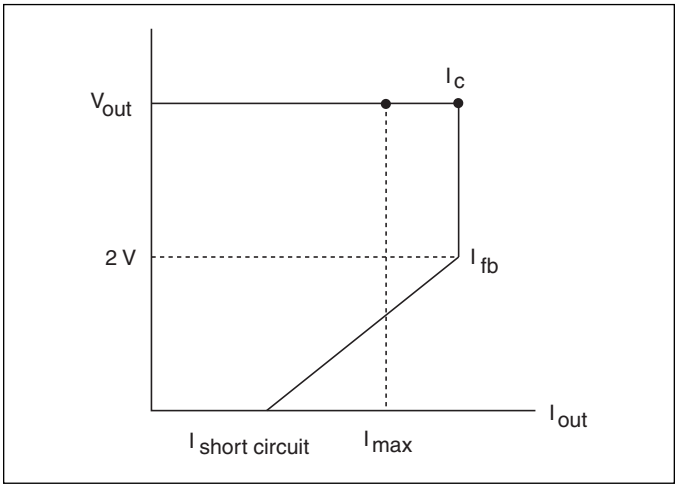

Figure 4–1 *— Foldback current limiting*

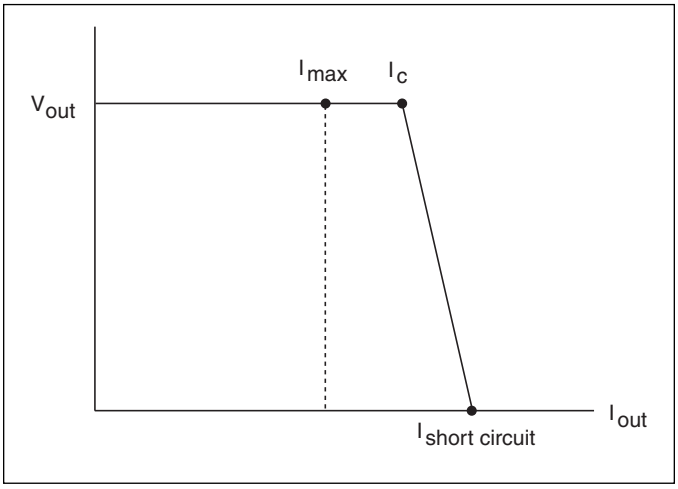

Figure 4–2 *— Straight-line current limiting*