APPENDIX 2B INCREASE IN MOSFET TURN-ON SWITCHING LOSS DUE TO DIODE REVERSE RECOVERY CURRENT

Previously, during the turning-on of the MOSFET in the power-pole of Fig. 2-4a, the diode was assumed ideal. Including the diode reverse recovery current increases the current through the MOSFET and, hence, the turning-on portion of the switching losses in the MOSFET as shown in Fig. 2B-1. For simplicity of drawing, it is assumed that the diode reverse-recovery current snaps off to zero instantly.

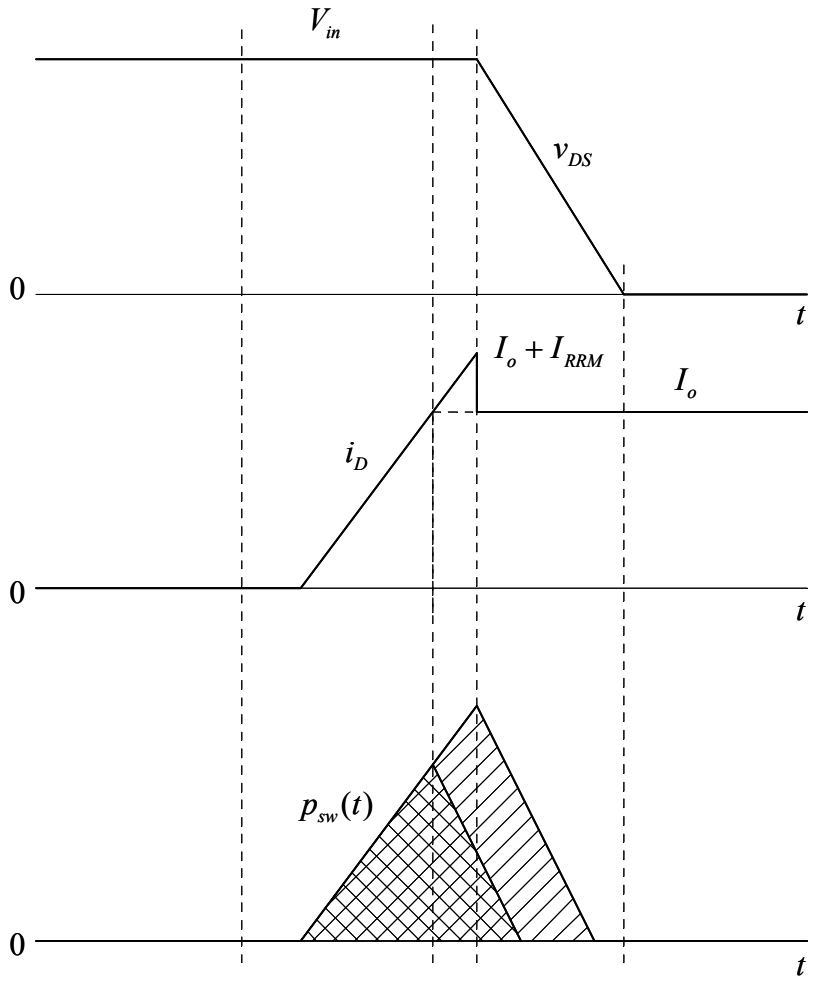

Figure 2B-1 Increase in MOSFET turn-on loss due to the diode reverse recovery current.