

TOOL: The diagram below shows the linear approximation of a Zener diode modeled as a Thévenin equivalent.

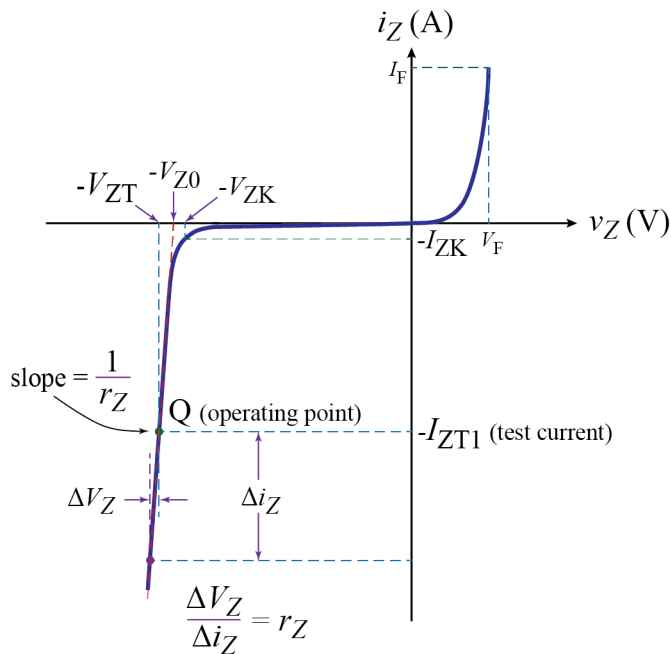


Fig. 1. Zener diode characteristics. Red dashed line is Thévenin equivalent model.

The following definitions apply:

$V_{ZT} \equiv$ Zener rated voltage, (use as regulated voltage value)

$I_{ZT} \equiv$ Zener rated current, (current to use to get rated Zener voltage value)

$V_{Z0} \equiv$ Zener Thévenin equivalent voltage, (typically omitted from specs)

$r_Z \equiv$ Zener Thévenin equivalent resistance at operating point

$V_{ZK} \equiv$ Zener minimum voltage at minimum current for regulation (i.e., avalanche mode)

$I_{ZK} \equiv$ Zener minimum current for voltage regulation (for avalanche mode)