



New Product Announcement

AP22653Q

Automotive-Compliant Power Switch Delivers Adjustable Current Limit for Automotive USB Applications

The AP22653Q is an automotive-compliant*, single-channel, precision-adjustable, current-limited switch optimized for applications that require precision current limiting. The device can provide continuous load current up to 1.5A.

The AP22653Q's current-limit threshold is adjustable between 125mA and 1735mA (typ) via an external resistor. Current-limit accuracy $\pm 7\%$ can be achieved at high current-limit settings. The controlled rise and fall times minimize current surge during turn-on and -off.

The AP22653Q is optimized for applications subject to heavy capacitive loads, providing reverse current blocking, and thermal and short-circuit protection, as well as undervoltage lockout. It has a fast short-circuit response time with current foldback for improved overall system robustness.

The AP22653Q is in the SOT26 package.



The Diodes Advantage

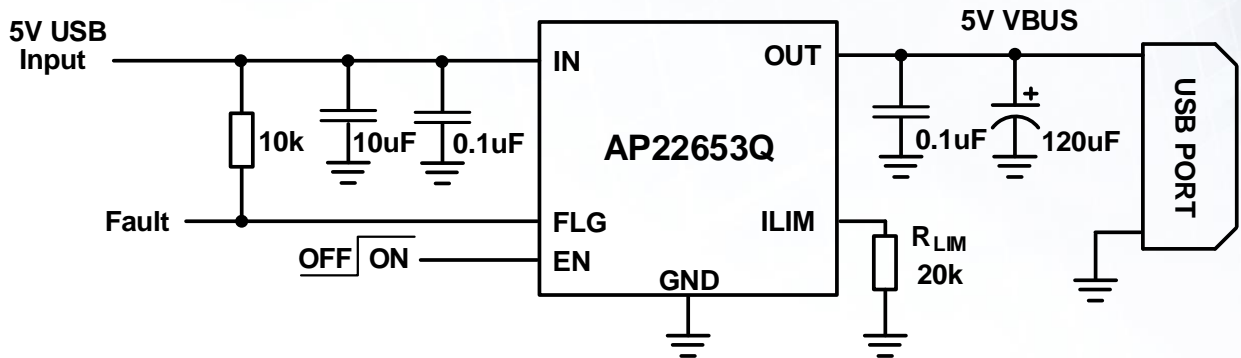
- Adjustable current limit from 125mA to 1735mA (peak)**
 Single device used across platforms with a resistor change up to 1.5A continuous load
- $\pm 7\%$ Current-limit accuracy at 1.735A with RLIM = 15k Ω**
 Allows closer matching of current limits to system requirements, reducing unnecessary overheads
- Fast short-circuit response time: 5 μ s**
 Prevents unnecessary system shutdown or restart, improving system robustness
- Reverse current protection: blocking during shutdown and current limiting while enabled**
 Protects system from reverse currents when peripherals are externally powered
- Robust protection feature set with overcurrent limit, reverse current block, short-circuit protection, thermal shutdown, and fault indicator**
 Improves system robustness

Applications

- Automotive ECU Supply Rail Power Distribution
- Infotainment / Telematics
- Automotive ECU Supply Rail Current-Limiting
- BC1.2 USB Charger

*Automotive compliant – AEC-Q100 grade 1 qualified in IATF 16949 certified manufacturing sites and supports PPAP documentation

Application Diagram



Product Portfolio

Part Number	Operating VIN Range	Maximum Continuous Current	Typical Quiescent Current at VIN=5V	Typical R _{ON} at VIN=5V	Output Discharge Resistance	Enable Logic	Ambient Temperature	Reverse Current Block (RCB)	Package
	V	A	μA	mΩ	Ω		°C		
AP22653Q	3 to 5.5	1.7	140	55	600	Active HIGH	-40 to 125	Y	SOT26

Ordering Information

Part Number	Compliance	Package Code	Package	Moisture Sensitivity	Reel Size	Tape Width	Quantity
AP22653QW6-7	Automotive	W6	SOT26 (Type A1)	MSL 1	7 inches	8mm	3000