



New Product Announcement

AP3190
AP3190P
AP3190T

Multi-Mode PSR Controllers with Light-Load High Efficiency for Offline SMPS

The AP3190/AP3190P/AP3190T are high-performance, offline, primary-side regulation (PSR), AC-DC power supply controllers supporting up to 45W.

The family uses multiple control modes (quasi-resonant (QR), amplitude modulation (AM), and pulse frequency modulation (PFM)) to achieve high efficiency across the whole load range with improved audible noise.

At light loads (>10%) the AP3190/P use burst mode to deliver > 85% efficiency, which is useful for IoT devices with “always on” wireless connections, such as smart speakers in standby mode.

The AP3190P's proprietary peak power mode allows transient peak powers up to 175% of nominal rating without added design cost or size.

The AP3190T has enhanced low-voltage operation which enables its use in adapters that support wide output voltage ranges, such as chargers for portable battery-powered devices.

The AP3190/P/T are packaged in the industry-standard SOT26 (Type SM) with the same pin out.



The DIODES Advantage

These new PSR controller provide improved light-load high efficiency.

- **Multi-Mode QR/AM/PFM Control Mode**
Improves efficiency and eliminates audible noise
- **Burst Mode (AP3190/P) at Light Loads (10%) for > 85% Efficiency**
Enables IoT devices with wireless connections in “always on” mode to meet efficiency requirements
- **AP3190P: 1.75 Times Transient Peak Power**
Delivers 1.75 times transient peak power capability without an increase in design cost and size
- **AP3190T: Enhanced Short-Circuit Protection For Low Output Voltage Operation**
Supports a wide range of variable output voltage applications, such as battery-powered device chargers
- **External Adjustable Overtemperature Protection**
Provides accurate and optimizable overtemperature protection

Applications

Charger and adapters for:

- IoT devices
- Smart speakers
- Power tools
- Network devices
- Home electronics

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Part Number	Burst Mode	Peak Power Mode	Operating Current	Standby Power	Cable Compensation	Power Rating	Package
			µA	mW		W	
AP3190	Yes	No	450	65	2%	45	SOT26 (Type SM)
AP3190P	Yes	Yes	450	65	2%	45	SOT26 (Type SM)
AP3190T	No	No	450	65	2%	45	SOT26 (Type SM)

Orderable Part Number	Compliance (Only Automotive Supports PPAP)	Package	Package Marking ID	Moisture Sensitivity	Packing	
					Quantity	Carrier
AP3190W6-7	Standard	SOT26 (Type SM)	B9	MSL-3	3,000	7" Tape & Reel
AP3190PW6-7	Standard	SOT26 (Type SM)	BP	MSL-3	3,000	7" Tape & Reel
AP3190TW6-7	Standard	SOT26 (Type SM)	BT	MSL-3	3,000	7" Tape & Reel