
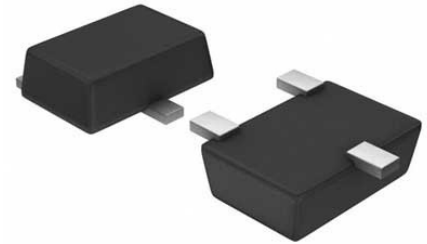


Transformer Drivers Automotive 6-Pin SOT-23 T/R

Manufacturer:	Texas Instruments, Inc
Package/Case:	SOT23-6
Product Type:	Power Management ICs
RoHS:	RoHS Compliant/Lead free 
Lifecycle:	Active



Images are for reference only

[Inquiry](#)

General Description

The SN6505x-Q1 is a low-noise, low-EMI push-pull transformer driver, specifically designed for small form factor, isolated power supplies. It drives low-profile, center-tapped transformers from a 2.25 V to 5 V DC power supply. Very low noise and EMI are achieved by slew rate control of the output switch voltage and through Spread Spectrum Clocking (SSC). The SN6505x-Q1 consists of an oscillator followed by a gate drive circuit that provides the complementary output signals to drive ground-referenced N-channel power switches. The device includes two 1-A Power-MOSFET switches to ensure start-up under heavy loads. The switching clock can also be provided externally for accurate placement of switcher harmonics, or when operating with multiple transformer drivers. The internal protection features include a 1.7 A current limiting, under-voltage lockout, thermal shutdown, and break-before-make circuitry. SN6505A-Q1 and SN6505B-Q1 include a soft-start feature that prevents high inrush current during power up with large load capacitors. Soft-start feature has been disabled in SN6505D-Q1 for applications that require fast output start-up. SN6505A-Q1 has a 160 kHz internal oscillator for applications that need to minimize emissions whereas SN6505B-Q1 and SN6505D-Q1 have a 420 kHz internal oscillators for applications that require higher efficiency and smaller transformer size. The SN6505x-Q1 is available in a small 6-pin SOT23/DBV package. The device operation is characterized for a temperature range from -40°C to 125°C.

Key Features

AEC-Q100 (Grade 1) qualified for automotive applications

Device temperature grade 1: -40°C to +125°C, T

A

Functional Safety-Capable

Documentation available to aid functional safety system design:

SN6505A-Q1

SN6505B-Q1

SN6505D-Q1

Push-pull driver for transformers

Wide input voltage range: 2.25 V to 5.5 V

High output drive: 1 A at 5 V supply

Low R

ON

Reduced conducted and radiated EMI

Spread spectrum clocking

Precision internal oscillator options: 160 kHz (SN6505A-Q1) and 420 kHz (SN6505B-Q1 and SN6505D-Q1)

Synchronization of multiple devices with external clock input

Slew-rate control

1.7 A Current-limit

Low shutdown current: <1 μ A

Thermal shutdown

Small 6-Pin SOT23 (DBV) package

Soft-start enabled (SN6505A-Q1 and SN6505B-Q1) to reduce in-rush current and soft-start disabled (SN6505D-Q1) for fast start-up

Recommended For You

SN105125DBVR

Texas Instruments, Inc

SOT23-5

SN6501QDBVRQ1

Texas Instruments, Inc

SOT23-5

BQ2050HSN-A508

Texas Instruments, Inc

SOP16

BQ2000SN-B5

Texas Instruments, Inc

SOP8

SN6501DBVT

Texas Instruments, Inc

SOT23-5

SN6505BQDBVTQ1

Texas Instruments, Inc

SOT-23-6

BQ2014HSN

Texas Instruments, Inc

SOP-16

BQ2002FSN

Texas Instruments, Inc

SOP8

BQ2002TSN

Texas Instruments, Inc

SOP-8

BQ2004HSN

Texas Instruments, Inc

SOP16

BQ2004SN

Texas Instruments, Inc

SOP16

BQ2002SN

Texas Instruments, Inc

SOP8

BQ2057WSNIR

Texas Instruments, Inc

SOP8

BQ2004ESN

Texas Instruments, Inc

SOP16

BQ2000TSN-B5

Texas Instruments, Inc

SOP8