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MAX14740—MAX14742/ MAX20320

Smart, Compact, 6A, Power-Path Selector with Reset Control

General Description

The MAX14740—MAX14742/MAX20320 compact 6A smart power-path selector with reset control features a low 11mΩ (typ) RON internal FET and provides the system power from two separate power sources. The devices feature reset and disconnect functions to provide system power, reset, and disconnect based on multiple inputs, including $\overline{MR1}$, $\overline{MR2}$, and TAIN.

The devices feature two individual enable inputs to control each power path. The MAX14740 enable function is provided through I²C control, while those of the MAX14741/MAX14742/MAX20320 are performed by GPIO control. Each enable input controls the corresponding path as an independent switch. However, when both paths are enabled, the device can either autoselect the input source or have both inputs connected to the output. When autoselect is chosen, the internal comparator controls the path based on the voltage at the input nodes. The devices also feature an ultra-low supply current, even during an operating state or off state, providing longer battery life.

The devices are available in 20-bump (1.6mm x 2.1mm) wafer-level packages (WLPs) and operate over the -40°C to +85°C extended temperature range.

Applications

- Smart Phones
- Tablet PCs
- Cameras
- Game Console

Benefits and Features

- Provides Robust Bidirectional Power Path
 - Wide Operating Input Voltage: +1.6V to +5.5V
 - 6A Continuous-Current Capability
 - Two Integrated 11mΩ (typ) MOSFET Switches
- Flexible System Design with Battery Connect, Reset, and Disconnect
 - I²C Control: MAX14740
 - Programmable Connect Time
 - Programmable Reset Setup Time
 - Programmable Reset Pulse Length
 - Programmable Disconnect Setup Time
 - Programmable Comparator Hysteresis
 - Programmable Input Autoselect
- GPIO Control: MAX14741/MAX14742/MAX20320
 - Programmable Comparator Hysteresis
 - Programmable Input Autoselect
- Long Battery Life
 - Ultra-Low Quiescent Supply Current 7.5μA (typ)
 - Fast Switchover
 - Optimum Soft-Start Feature

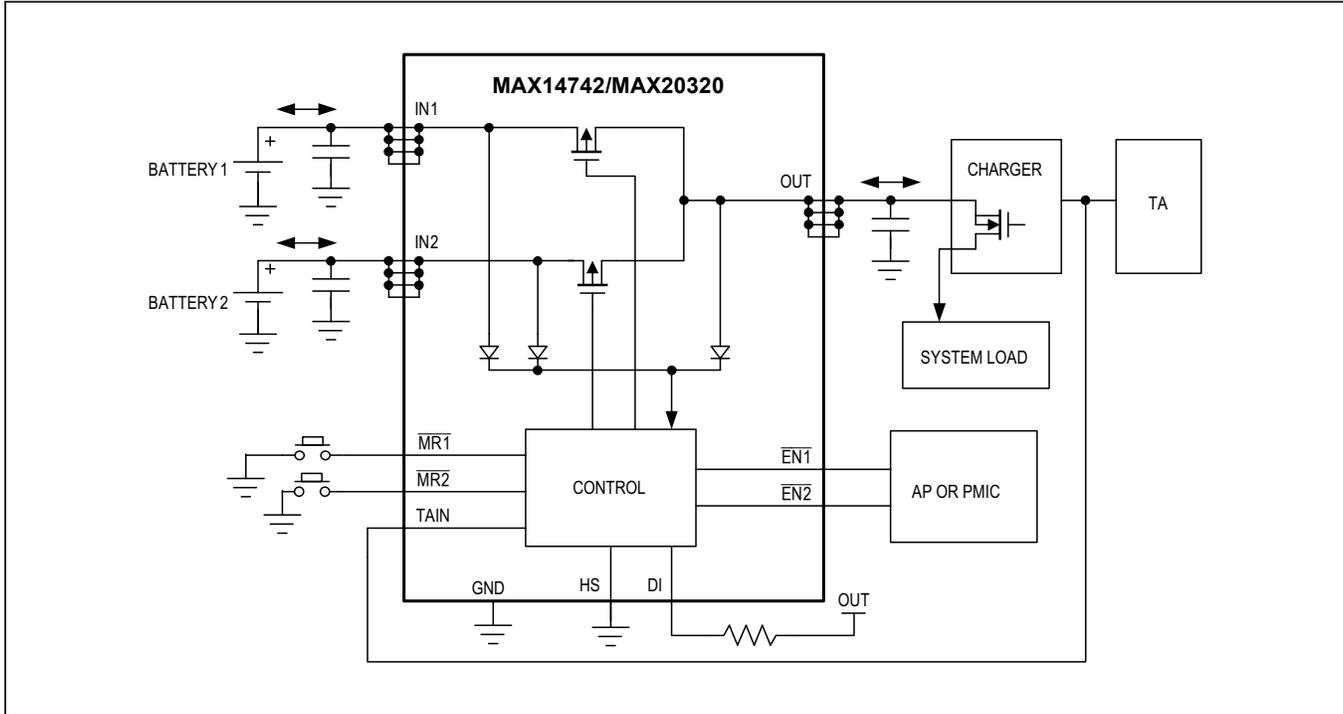
Ordering Information appears at end of data sheet.

ABRIDGED DATA SHEET

MAX14740–MAX14742/
MAX20320

Smart, Compact, 6A, Power-Path
Selector with Reset Control

Typical Application Circuits (continued)



Ordering Information/Selector Guide

PART	COMMUNICATION	COMPARATOR THRESHOLD	OUT DISCHARGE ENABLE	t_{DB}	PIN-PACKAGE
MAX14740EWP+T	I ² C	PROGRAMMABLE	PROGRAMMABLE	PROGRAMMABLE	20 WLP
MAX14741EWP+T	GPIO	300mV/500mV	NO	2.5 sec	20 WLP
MAX14742EWP+T	GPIO	200mV/400mV	YES	2.5 sec	20 WLP
MAX20320EWP+T	GPIO	200mV/400mV	YES	1 sec	20 WLP

+Denotes a lead(Pb)-free/RoHS-compliant package.

T = Tape and reel.

Chip Information

PROCESS: BiCMOS

Package Information

For the latest package outline information and land patterns (footprints), go to www.maximintegrated.com/packages. Note that a "+", "#", or "-" in the package code indicates RoHS status only. Package drawings may show a different suffix character, but the drawing pertains to the package regardless of RoHS status.

PACKAGE TYPE	PACKAGE CODE	OUTLINE NO.	LAND PATTERN NO.
20 WLP	W201G2+1	21-100016	Refer to Application Note 1891