

Product Overview

MCK12140: Phase Frequency Detector

For complete documentation, see the data sheet.

The MCH12140 or K12140 is a phase frequency-detector intended for phase-locked loop applications which require a minimum amount of phase and frequency difference at lock. When used in conjunction with high performance VCO such as the MC100EL1648, a high bandwidth PLL can be realized. The device is functionally compatible with the MC12040 phase-frequency detector with the maximum frequency extending to 800 MHz. When the Reference (R) and VCO (V) inputs are unequal in frequency and/or phase, the differential UP (U) and DOWN (D) outputs will provide pulse streams which when subtracted and integrated provide an error voltage for control of a VCO. See AND8040 for further information. The device is packaged in a small outline, surface mount 8-lead SOIC package. There are two versions of the device to provide I/O compatibility to the two existing ECL standards. The MCH12140 is compatible with MECL 10H logic levels while the MCK12140 is compatible to 100 K ECL logic levels. This device can also be used in +5.0 V systems. See AND8020 for termination information.

Features

- 800 MHz Typical Bandwidth
- Small Outline 8-Lead SOIC Package
- 75 k Ω Internal Input Pulldown Resistors
- > 1000 V ESD Protection
- Pb-Free Packages are Available

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Input Level	Output Level	V _{CC} Typ (V)	Transfer Gain Typ (mV/degree)	CMRR Max (V)	f _{Toggle} Max (MHz)	t _{pd} Typ (ns)	t _{jitter} Typ (ps)	t _r & t _f Max (ps)	Package Type
MCK12140DG		Pb-free Halide free	Active	ECL	ECL	5			800	0.44	0.2	350	SOIC-8
MCK12140DR2G		Pb-free Halide free	Active	ECL	ECL	5			800	0.44	0.2	350	SOIC-8

For more information please contact your local sales support at www.onsemi.com.

Created on: 1/21/2020