DRV2603

2.5 V – 5.2 V
VDD

EN

ERM/LRA

PWM

Supply Correction

Level Correction

Control Engine

Back-EMF Detection

Gate Drive

Gate Drive

VDD

OUT+

OUT-

GND

LRA or DC Motor

Evaluation kit contents

- DRV2603 LRA / ERM haptics driver with auto-resonance detection

- Eccentric rotating mass motor (ERM)

- Linear resonant actuator (LRA)

- Programmable MSP430 with haptic effects

- Capacitive touch buttons

For more information

- Touch products home page (www.ti.com/touch)

- Touch forum on E2E community

- Product web pages for DRV2603 (www.ti.com/product/drv2603) and DRV2603EVK (www.ti.com/tool/drv2603evm)

- DRV2603EVK-CT complete user's guide

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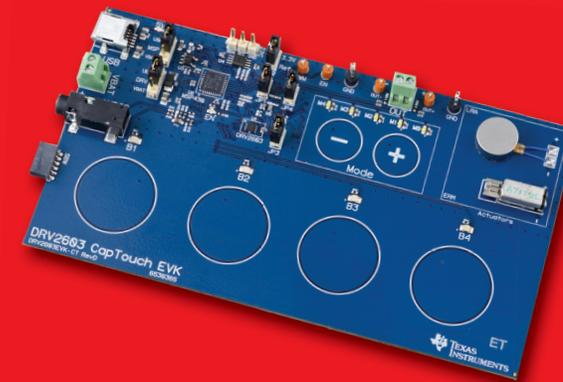
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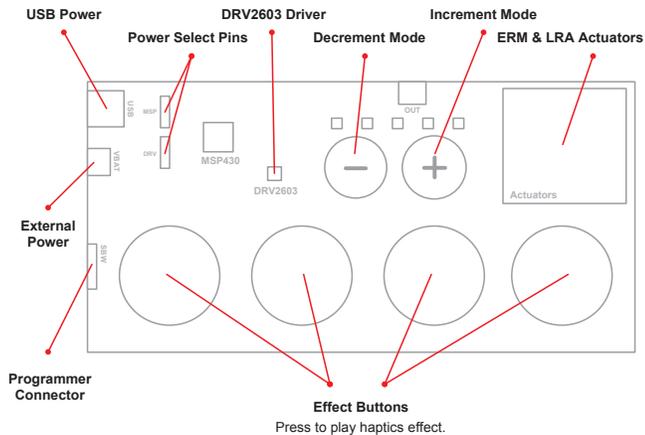Printed in U.S.A. by (Printer, City, State)   B011012

SLYP179

DRV2603EVK-CT Quick-Start Guide

➔ *Start Here*

Getting started:

1. Verify jumpers MSP and DRV, next to the USB connector, are connected to the USB pin.

2. Plug the board into an available USB power source (computer or wall charger) using the included USB cable.

3. The board enters a power up sequence and the 5V indicator lights up while powered by USB.

4. Use the large buttons to play effects and the "+" and "-" buttons to switch between modes. Each mode has a different set of effects.
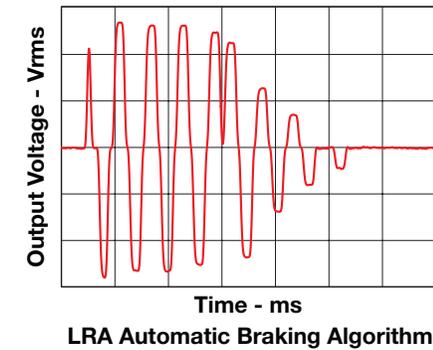

USB Power
DRV2603 Driver
Increment Mode
Power Select Pins
Decrement Mode
ERM & LRA Actuators
External Power
Actuators
Programmer Connector
Effect Buttons
Press to play haptics effect.

Mode and Effects

Mode	Button	Description	Actuator Mode
Mode 0 LEDs Off	B1	Ramp-up & click	LRA (Auto-Resonance On)
	B2	Click & Ramp-down	
	B3	Ramp-up & click	ERM
	B4	Click & Ramp-down	
Mode 1 LED M4 On	B1	LRA Alert (Buzz)	LRA (Auto-Resonance On)
	B2	LRA Alert (Buzz)	LRA (Auto-Resonance Off)
	B3	ERM Alert (Buzz)	ERM
	B4	LED Flash (Visual Alert Only)	–
Mode 2 LED M3 On	B1	Click with braking	LRA (Auto-Resonance On)
	B2	Click no braking	
	B3	Double-click with braking	
	B4	Double-click no braking	

Advantages of the DRV2603

Feature	Benefit	Mode
LRA Auto-Resonance Detection	No frequency calibration required; Up to 2x the force while using a fraction of the power	Mode 1
Automatic Braking	Provide event separation and the ability to recreate high frequency effects using LRAs	Mode 2
One External Component	Smallest ERM/LRA driver available	

Mode and Effects

Mode	Button	Description	Actuator Mode
Mode 3 LED M2 On	B1	Keyboard Click (Click with braking)	LRA (Auto-Resonance On)
	B2	Spacebar Effect (Click & Release)	
	B3	Backspace Effect (Double-tick)	
	B4	Scroll Effect	
Mode 4 LED M1 On	B1	Click with braking	ERM
	B2	Click no braking	
	B3	Double-click with braking	
	B4	Double-click no braking	
Mode 5 LED M0 On	B1	Concentration / Simon Game The board will display a pattern using the effect buttons. See how many times you can repeat the pattern as it increases by one effect each time.	ERM & LRA (Auto-Resonance On)
	B2		
	B3		
	B4		

Output Voltage - Vrms

Time - ms

LRA Automatic Braking Algorithm

IMPORTANT NOTICE