ON Semiconductor®

Product Bulletin

Document # : PB21571X
Issue Date: 15 December 2016

Title of Change:	Update datasheet for adding the dependent on switching time characteristics and input pulse width.
Effective date:	15 December 2016
Contact information:	Contact your local ON Semiconductor Sales Office or <Osamu Akaki@onsemi.com>
Type of notification:	ON Semiconductor will consider this change accepted.
Change category:	☐ Wafer Fab Change ☐ Assembly Change ☐ Test Change ☒ Other Datasheet Update

Change Sub-Category(s):

☐ Manufacturing Site Change/Addition
☐ Manufacturing Process Change
☐ Material Change
☐ Product specific change
☒ Datasheet/Product Doc change
☐ Shipping/Packaging/Marking
☐ Other: _____

Sites Affected:

☒ All site(s) ☐ not applicable ☐ ON Semiconductor site(s) : ☐ External Foundry/Subcon site(s)

Description and Purpose:

This Product Bulletin updates the datasheet in order to add characteristics suitable for the customer's application use.
Updating this datasheet does not change other characteristics of the current datasheet.

Add the following 4 points
1) Switching time PW>10ms value. (Page.2)
2) Switching time circuit of PW>10ms. (Page.2)
3) Note 3 : The fall switching time is dependent on the input pulse width. (Page.2)
4) Dependency graph of switching time and input pulse width. (Page.3)

The below examples are ECH8693R-TL-W.

Turn-ON Delay Time	$t_{d(on)}$	See Fig. 1 (Note 3)		545		ns
Rise Time	t_r			525		ns
Turn-OFF Delay Time	$t_{d(off)}$			18.65		µs
Fall Time	t_f			22.2		µs
Turn-ON Delay Time	$t_{d(on)}$	See Fig. 2 (Note 3)		545		ns
Rise Time	t_r			525		ns
Turn-OFF Delay Time	$t_{d(off)}$			1,130		µs
Fall Time	t_f			410		µs
Total Gate Charge	Q_g	V_{DS} = 10 V, V_{GS} = 4.5 V, I_D = 14 A		13		nC
Gate to Source Charge	Q_{gs}			3		nC
Gate to Drain "Miller" Charge	Q_{gd}			2.4		nC
Forward Diode Voltage	V_{SD}	I_S = 14 A, V_{GS} = 0 V		0.78	1.2	V

Note 2 : Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.
Note 3 : The fall switching time is dependent on the input pulse width.

Fig.1 Switching Time Test Circuit 1

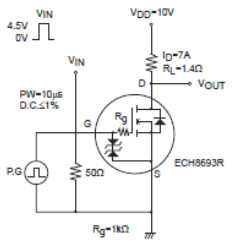
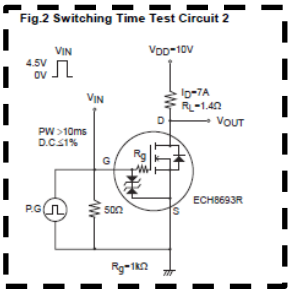
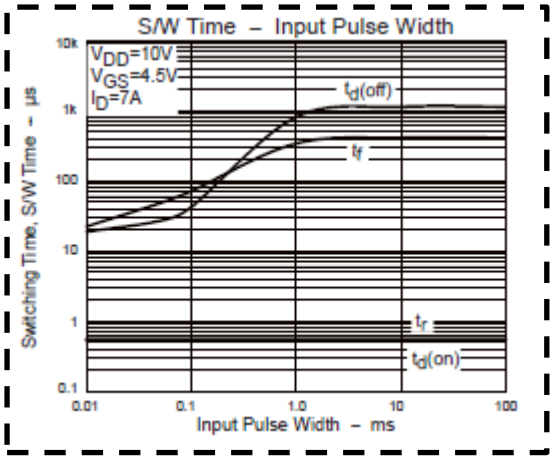


Fig.2 Switching Time Test Circuit 2





List of affected Standard Parts:

ECH8693R-TL-W
ECH8695R-TL-W
ECH8697R-TL-W