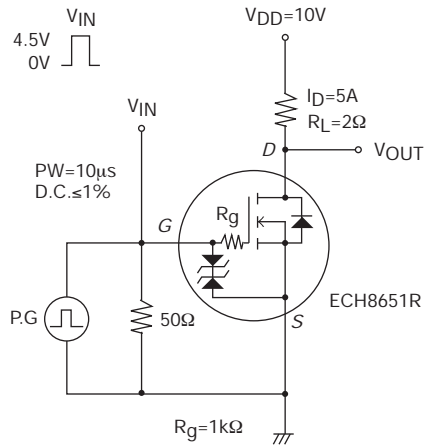


ECH8651R

Electrical Characteristics at Ta=25°C

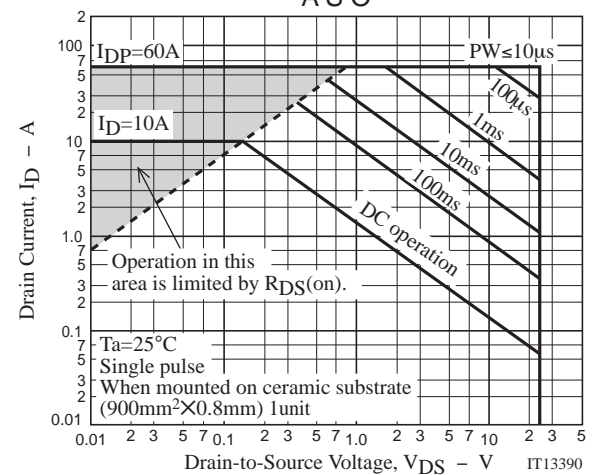
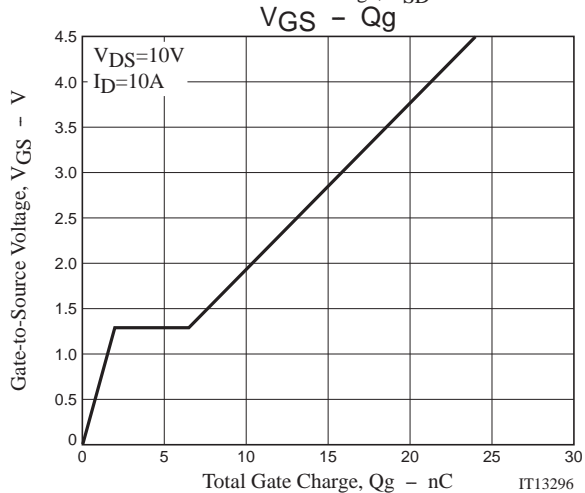
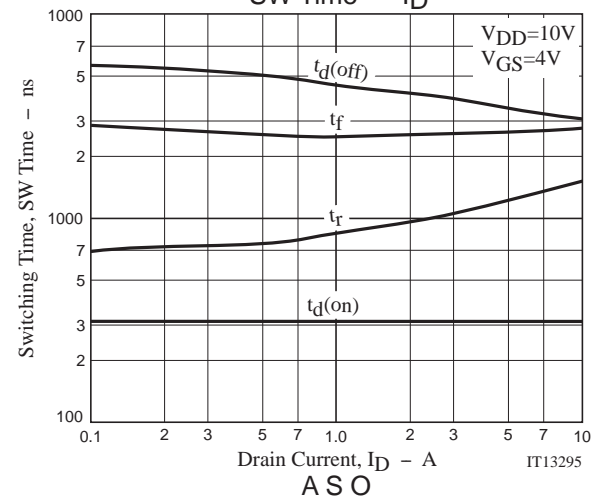
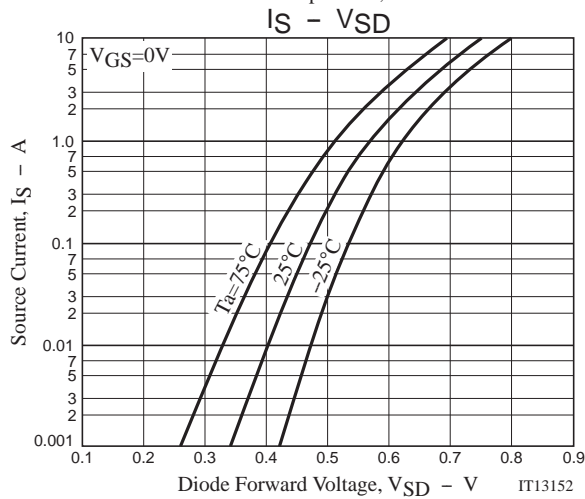
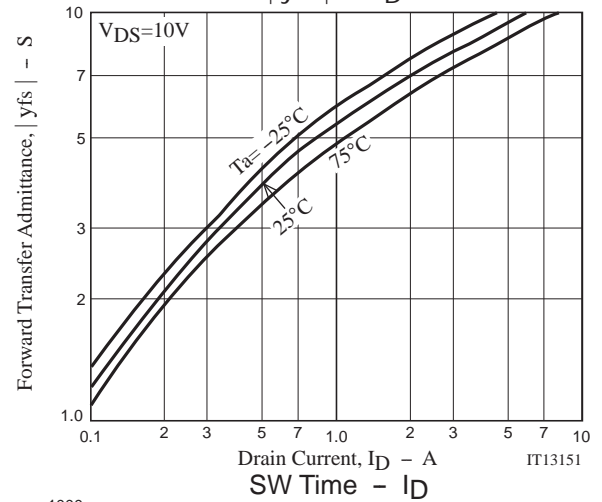
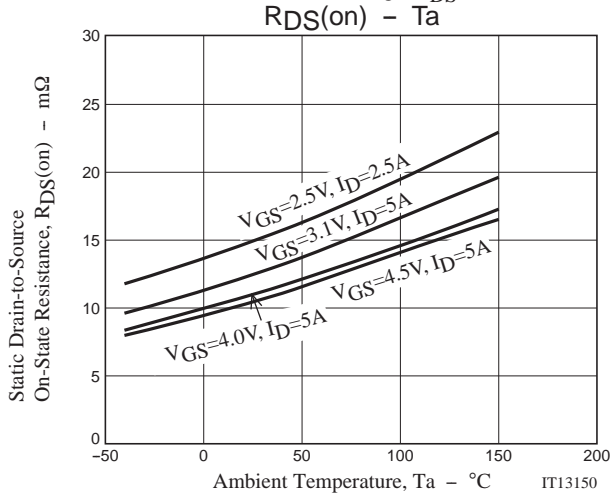
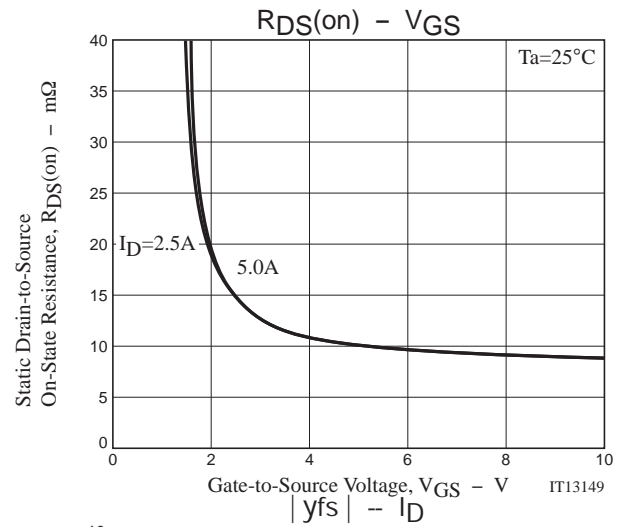
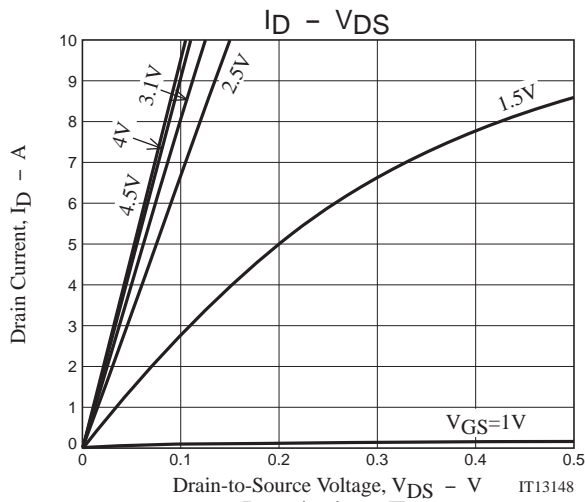
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	24			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=20V, V_{GS}=0V$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 8V, V_{DS}=0V$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	0.5		1.3	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10V, I_D=5A$	5.5	9.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=5A, V_{GS}=4.5V$	7	10.5	14	$m\Omega$
	$R_{DS(on)2}$	$I_D=5A, V_{GS}=4.0V$	7.2	11	15	$m\Omega$
	$R_{DS(on)3}$	$I_D=5A, V_{GS}=3.1V$	7.5	12.5	17.5	$m\Omega$
	$R_{DS(on)4}$	$I_D=2.5A, V_{GS}=2.5V$	9	15	21	$m\Omega$
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		300		ns
Rise Time	t_r			1000		ns
Turn-OFF Delay Time	$t_{d(off)}$			4000		ns
Fall Time	t_f			2500		ns
Total Gate Charge	Q_g	$V_{DS}=10V, V_{GS}=10V, I_D=10A$		24		nC
Gate-to-Source Charge	Q_{gs}			2		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			4.5		nC
Diode Forward Voltage	V_{SD}	$I_S=10A, V_{GS}=0V$		0.77	1.2	V

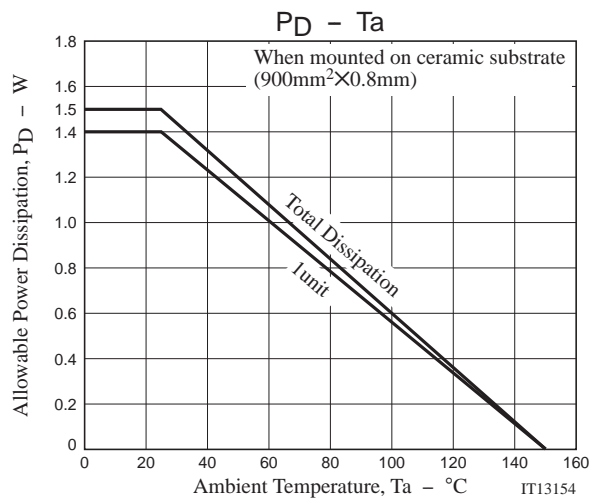
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
ECH8651R-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free





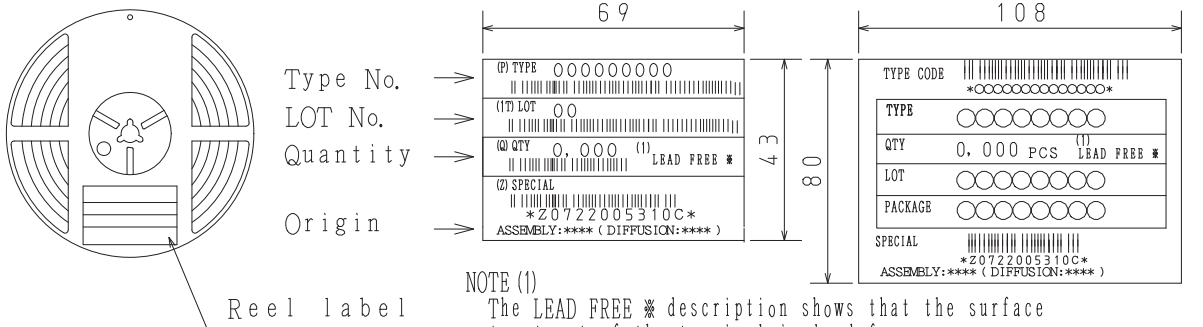
Embossed Taping Specification

ECH8651R-TL-H

1. Packing Format

Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
ECH8	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm (external) 183×72×185	6 inner boxes contained Dimensions:mm (external) 440×195×210

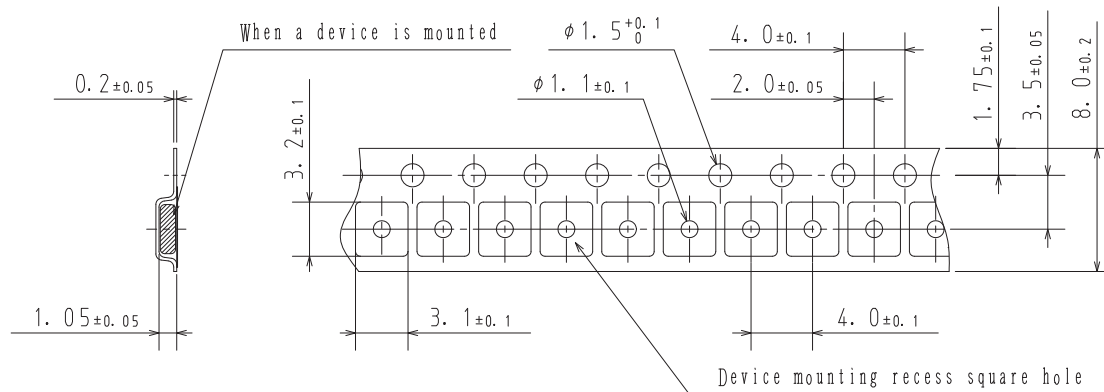
Packing method



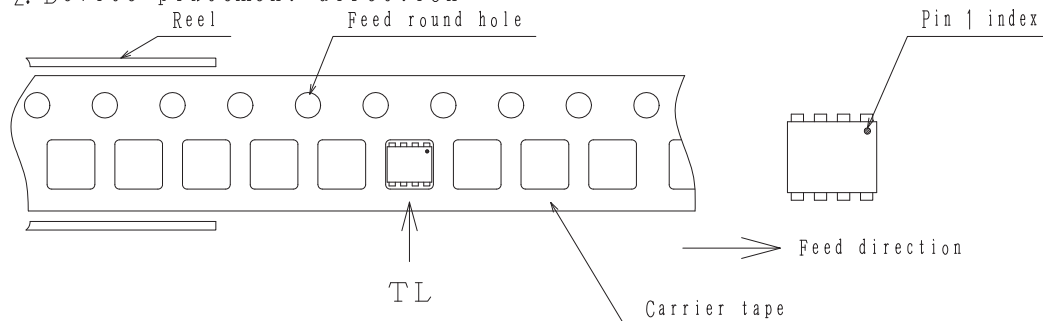
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

2-1. Carrier tape size (unit:mm)



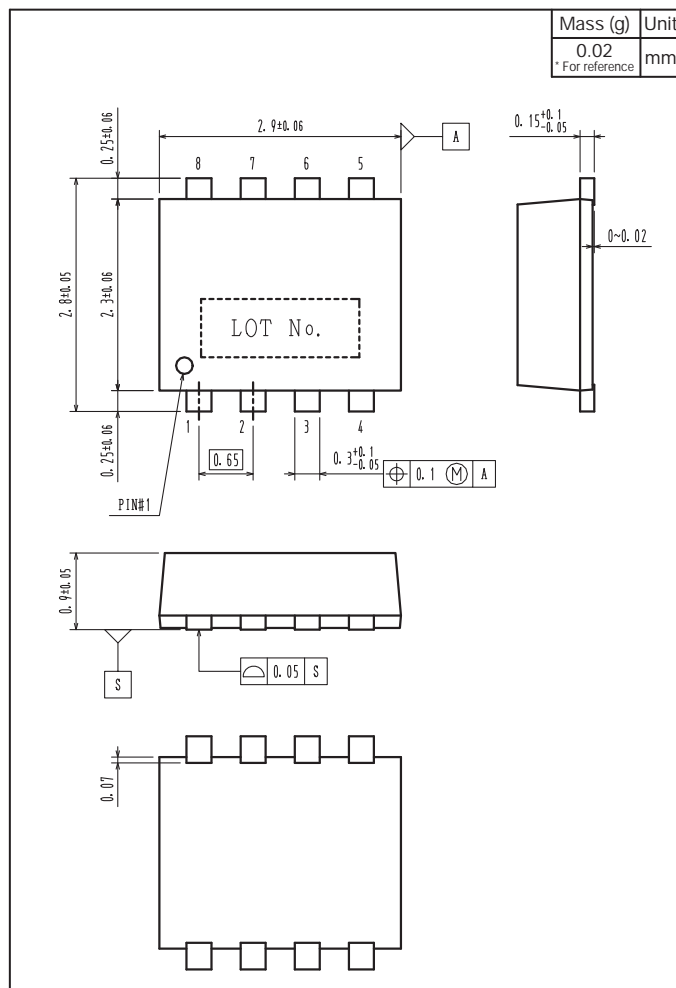
2-2. Device placement direction



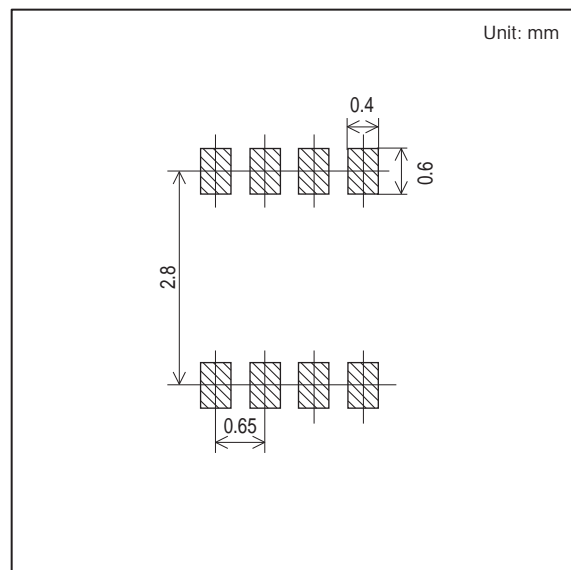
Those with pin 1 index on the feed hole side.....TL

ECH8651R

Outline Drawing
ECH8651R-TL-H



Land Pattern Example



Note on usage : Since the ECH8651R is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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