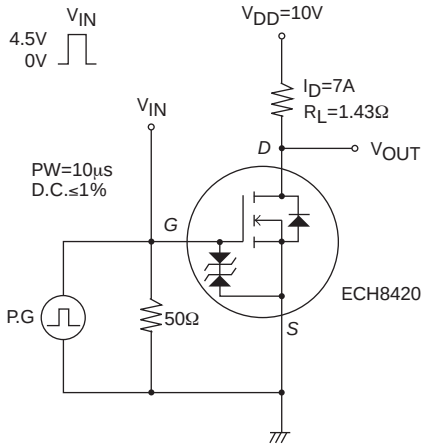
Electrical Characteristics at Ta=25°C

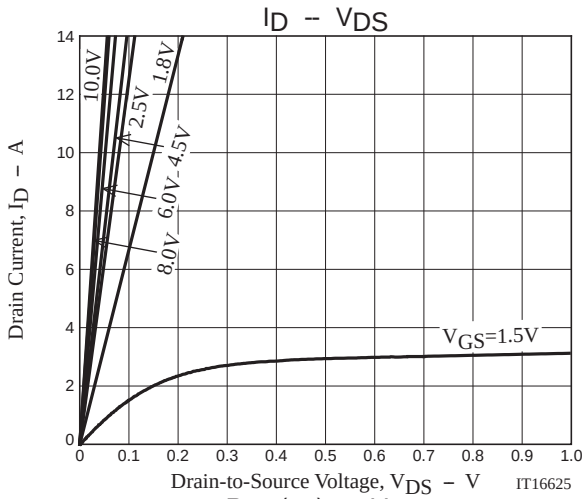
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=1mA, V_{GS}=0V	20			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=20V, V_{GS}=0V			1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±8V, V_{DS}=0V			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=10V, I_D=1mA	0.4		1.3	V
Forward Transfer Admittance	| yfs |	V_{DS}=10V, I_D=7A		14.5		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=7A, V_{GS}=4.5V		5.2	6.8	mΩ
	R_{DS}(on)2	I_D=4A, V_{GS}=2.5V		8	11.5	mΩ
	R_{DS}(on)3	I_D=2A, V_{GS}=1.8V		15	22.5	mΩ
Input Capacitance	Ciss	V_{DS}=10V, f=1MHz		2430		pF
Output Capacitance	Coss			410		pF
Reverse Transfer Capacitance	Crss			330		pF
Turn-ON Delay Time	t_{d}(on)	See specified Test Circuit.		21		ns
Rise Time	t_r			88		ns
Turn-OFF Delay Time	t_{d}(off)			210		ns
Fall Time	t_f			115		ns
Total Gate Charge	Qg	V_{DS}=10V, V_{GS}=4.5V, I_D=14A		29		nC
Gate-to-Source Charge	Qgs			4.8		nC
Gate-to-Drain “Miller” Charge	Qgd			8.7		nC
Diode Forward Voltage	V_{SD}	I_S=14A, V_{GS}=0V		0.75	1.2	V

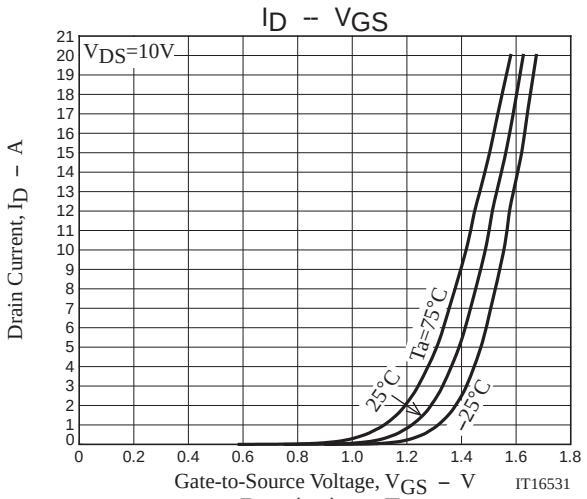
Switching Time Test Circuit

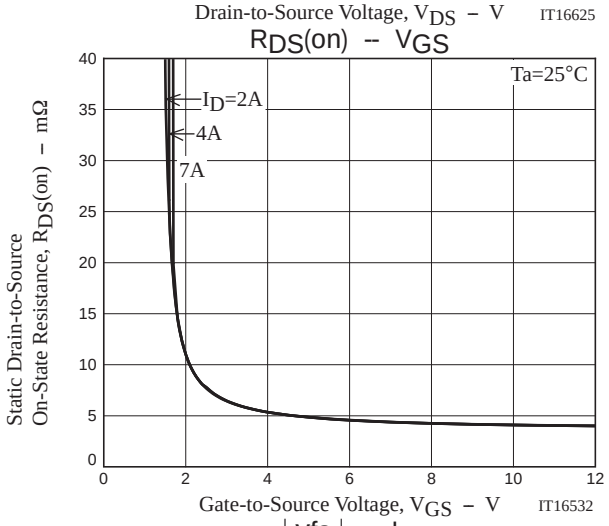


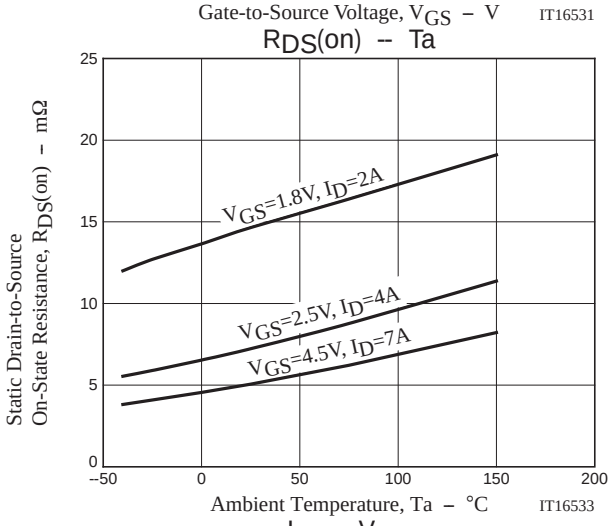
Ordering Information

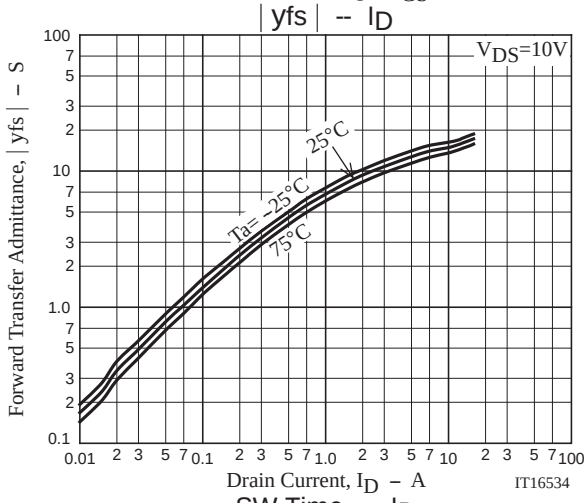
Device	Package	Shipping	memo
ECH8420-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free

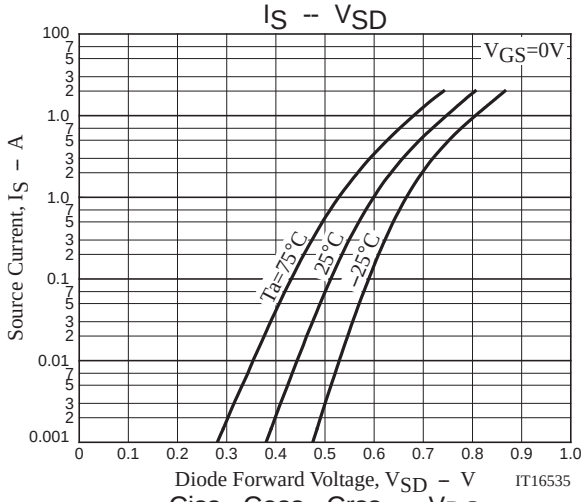


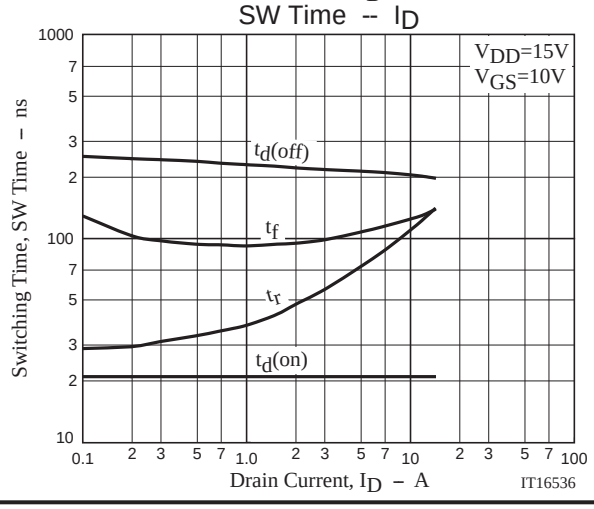


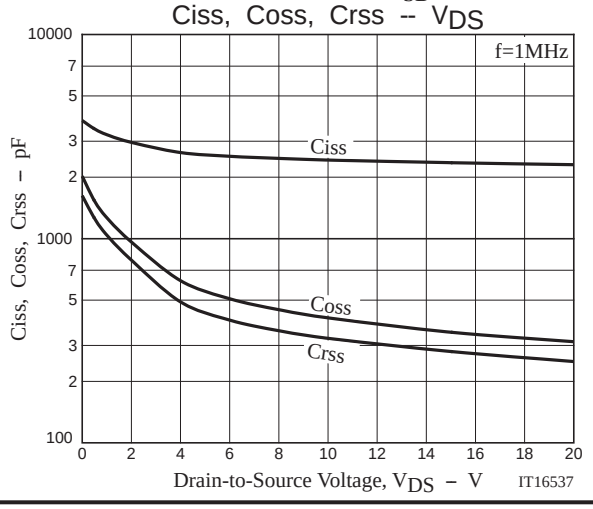


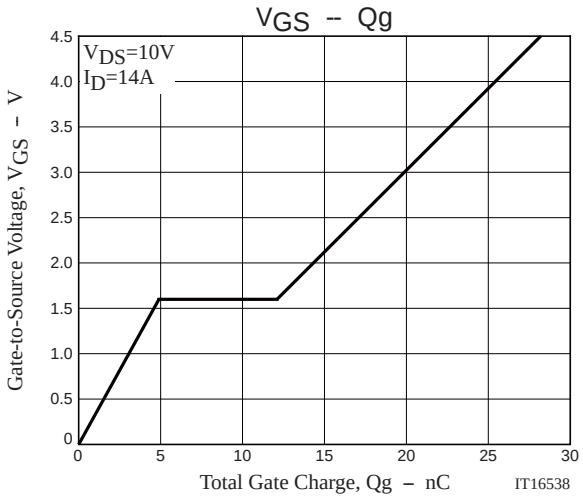


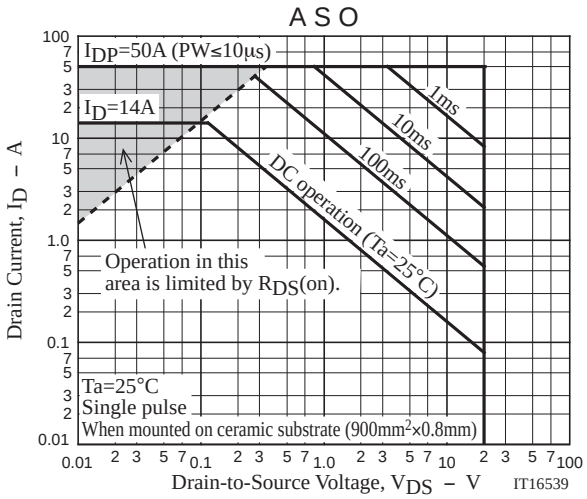


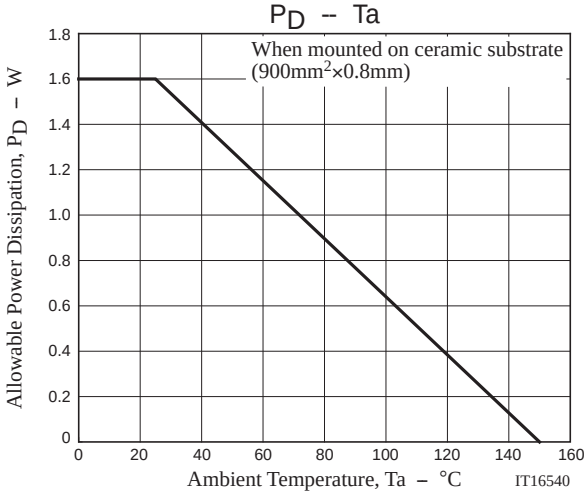












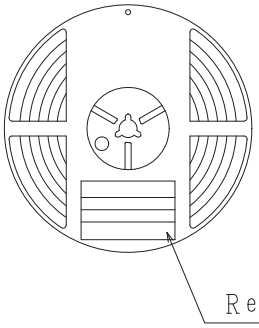
Embossed Taping Specification

ECH8420-TL-H

1. Packing Format

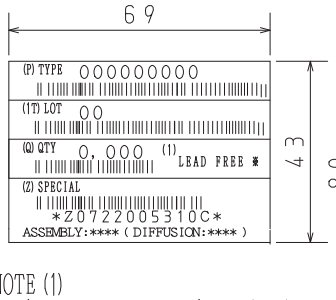
Package Name	Carrier Tape Type	Maximum Number of devices contained (pcs)			Packing format	
		Reel	Inner box	Outer box	Inner BOX (C-1)	Outer BOX (A-7)
ECH8	CPH6	3,000	15,000	90,000	5 reels contained Dimensions:mm(external) 183×72×185	6 inner boxes contained Dimensions:mm(external) 440×195×210

Packing method



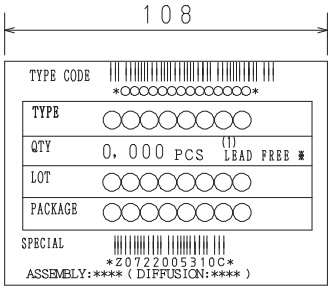
Reel label, Inner box label

(unit:mm)



Outer box label

It is a label at the time of factory shipments. The form of a label may change in physical distribution process.



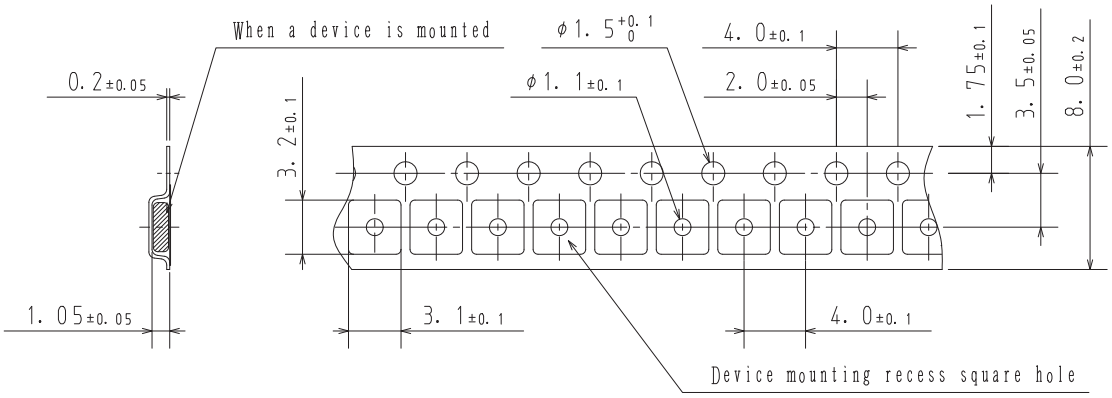
NOTE (1)

The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

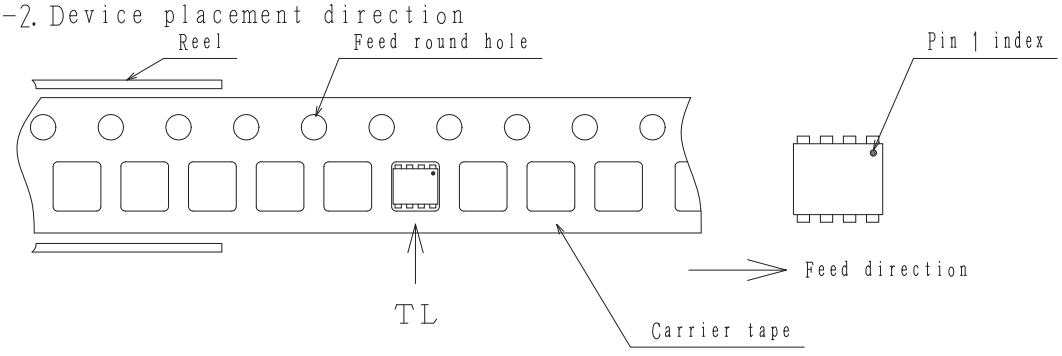
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



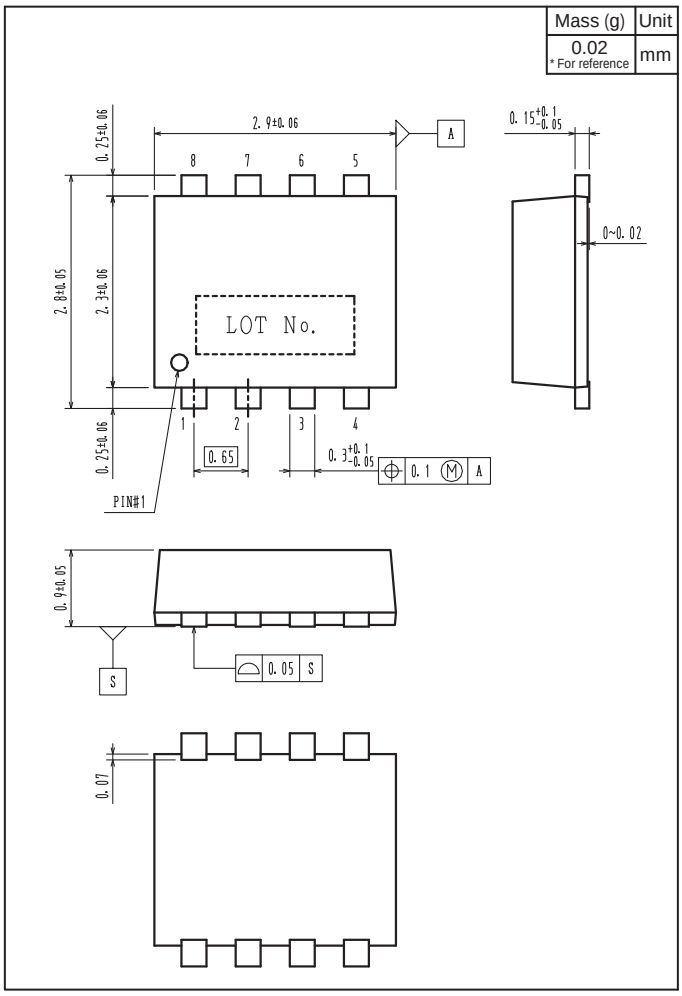
2-2. Device placement direction



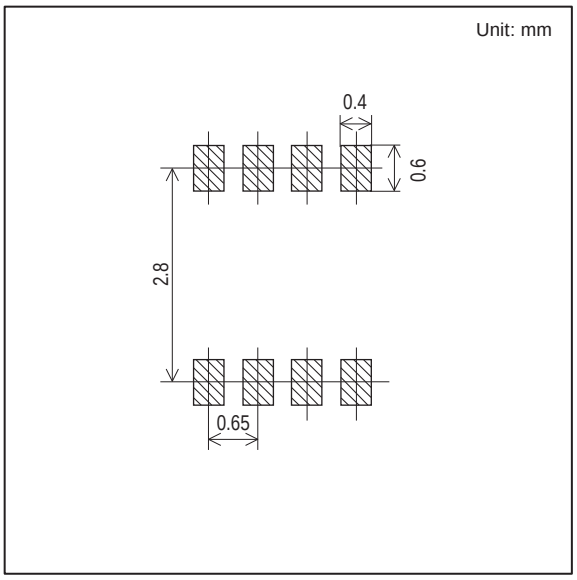
Those with pin 1 index on the feed hole side·····TL

Outline Drawing

ECH8420-TL-H



Land Pattern Example



Note on usage : Since the ECH8420 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.