

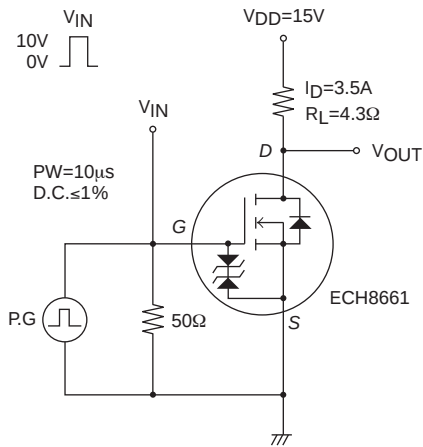
ECH8661

Electrical Characteristics at Ta=25°C

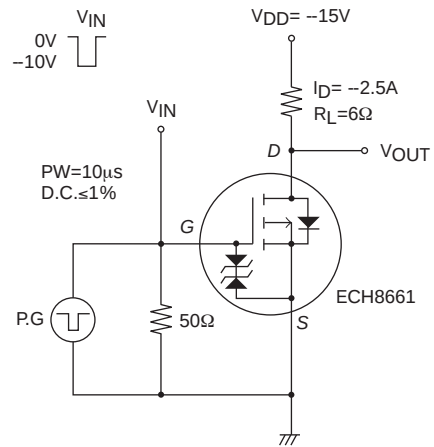
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
[N-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=1mA, VGS=0V	30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=30V, VGS=0V			1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=10V, ID=1mA	1.2		2.6	V
Forward Transfer Admittance	yfs	VDS=10V, ID=3.5A		3.7		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=3.5A, VGS=10V		18	24	mΩ
	RDS(on)2	ID=2A, VGS=4.5V		29	41	mΩ
	RDS(on)3	ID=2A, VGS=4V		39	55	mΩ
Input Capacitance	Ciss	VDS=10V, f=1MHz		710		pF
Output Capacitance	Coss	VDS=10V, f=1MHz		120		pF
Reverse Transfer Capacitance	Crss	VDS=10V, f=1MHz		72		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		10		ns
Rise Time	tr			25		ns
Turn-OFF Delay Time	tD(off)			43		ns
Fall Time	tf			25		ns
Total Gate Charge	Qg	VDS=15V, VGS=10V, ID=7A		11.8		nC
Gate-to-Source Charge	Qgs			2.4		nC
Gate-to-Drain “Miller” Charge	Qgd			2.0		nC
Diode Forward Voltage	VSD	IS=7A, VGS=0V		0.79	1.2	V
[P-channel]						
Drain-to-Source Breakdown Voltage	V(BR)DSS	ID=-1mA, VGS=0V	-30			V
Zero-Gate Voltage Drain Current	IDSS	VDS=-30V, VGS=0V			-1	μA
Gate-to-Source Leakage Current	IGSS	VGS=±16V, VDS=0V			±10	μA
Cutoff Voltage	VGS(off)	VDS=-10V, ID=-1mA	-1.2		-2.6	V
Forward Transfer Admittance	yfs	VDS=-10V, ID=-2.5A		5.2		S
Static Drain-to-Source On-State Resistance	RDS(on)1	ID=-2.5A, VGS=-10V		30	39	mΩ
	RDS(on)2	ID=-1.5A, VGS=-4.5V		55	77	mΩ
	RDS(on)3	ID=-1.5A, VGS=-4V		58	82	mΩ
Input Capacitance	Ciss	VDS=-10V, f=1MHz		600		pF
Output Capacitance	Coss			145		pF
Reverse Transfer Capacitance	Crss			110		pF
Turn-ON Delay Time	tD(on)	See specified Test Circuit.		7.2		ns
Rise Time	tr			23		ns
Turn-OFF Delay Time	tD(off)			63		ns
Fall Time	tf			42		ns
Total Gate Charge	Qg	VDS=-15V, VGS=-10V, ID=-5.5A		13		nC
Gate-to-Source Charge	Qgs			1.8		nC
Gate-to-Drain “Miller” Charge	Qgd			3.2		nC
Diode Forward Voltage	VSD	IS=-5.5A, VGS=0V		-0.82	-1.2	V

Switching Time Test Circuit

[N-channel]

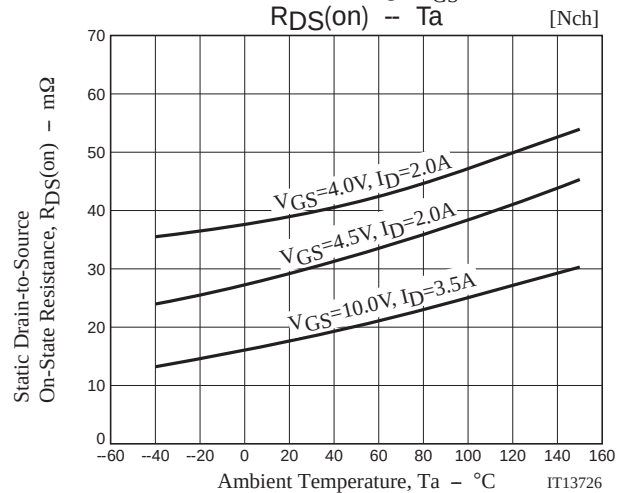
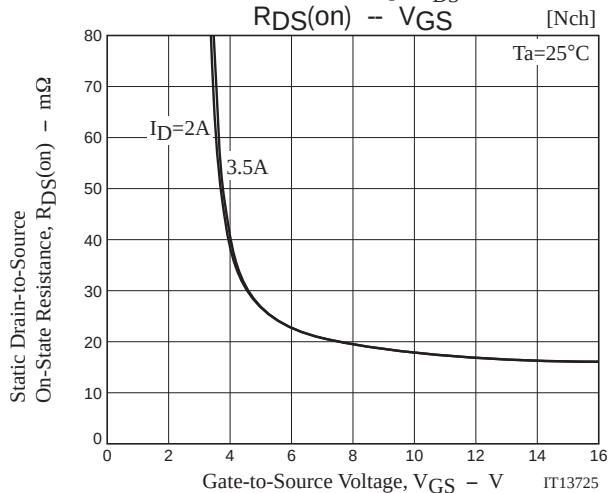
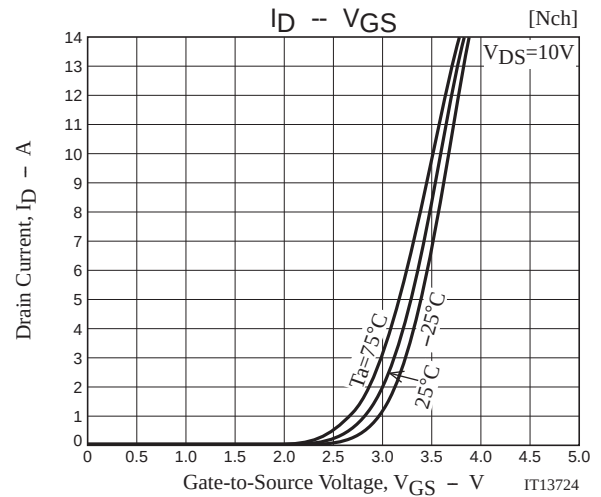
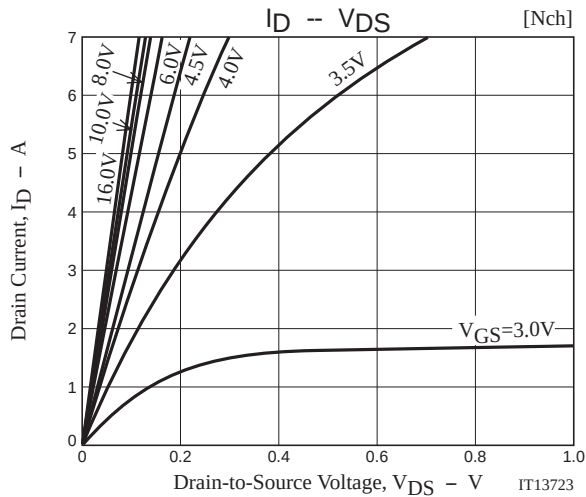


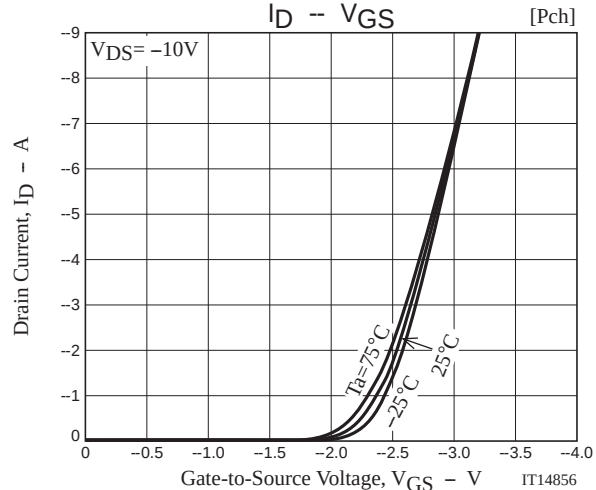
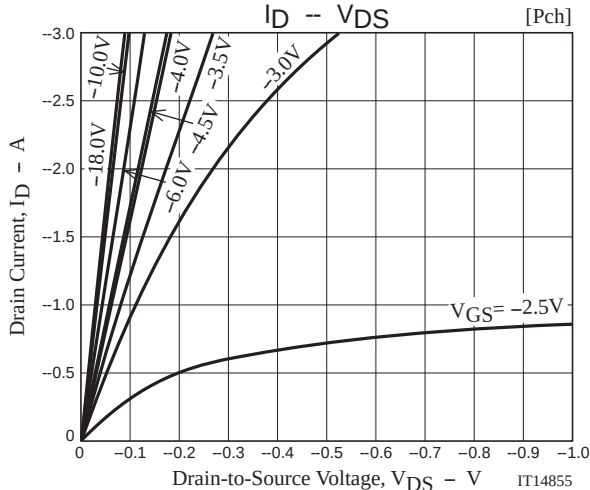
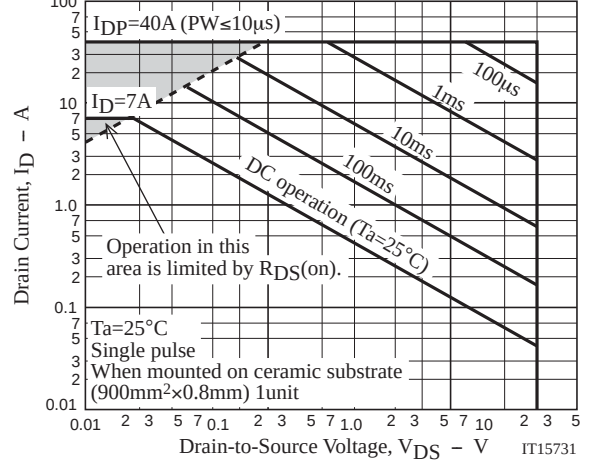
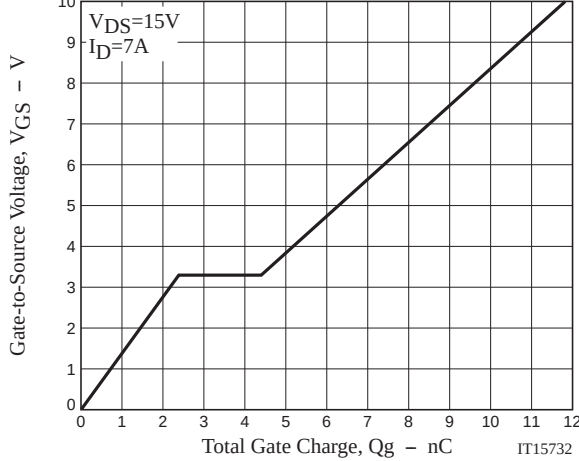
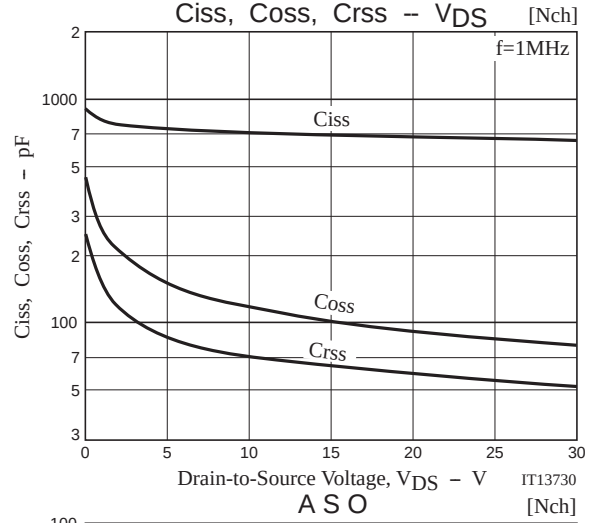
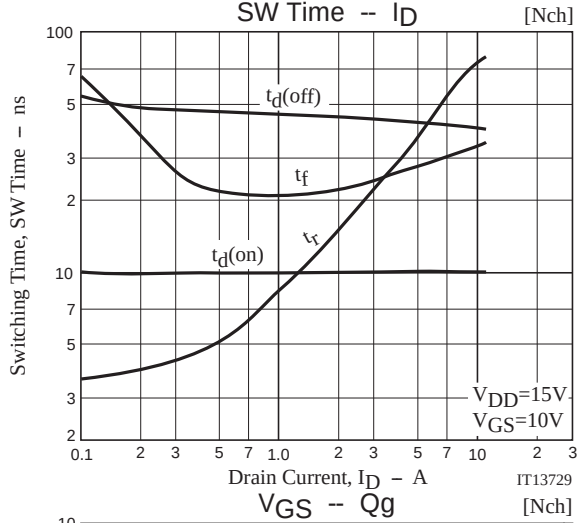
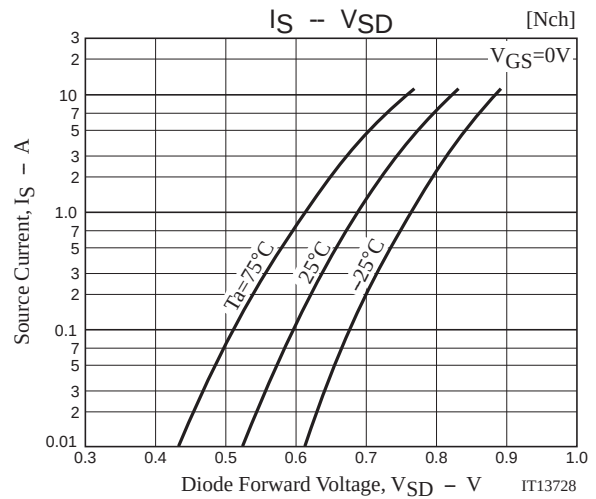
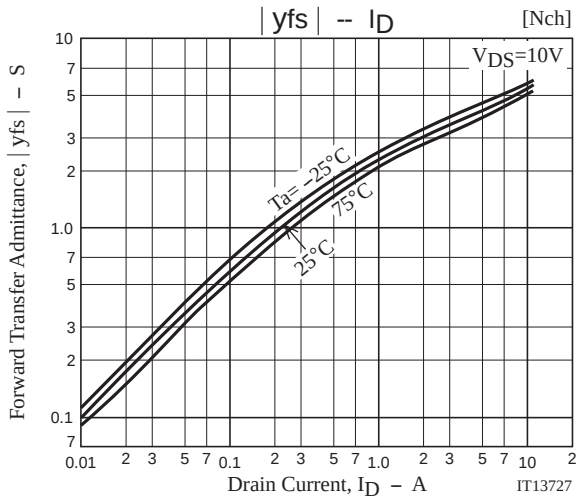
[P-channel]

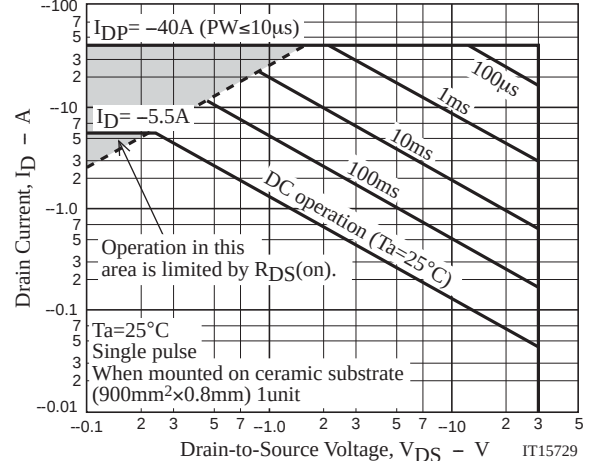
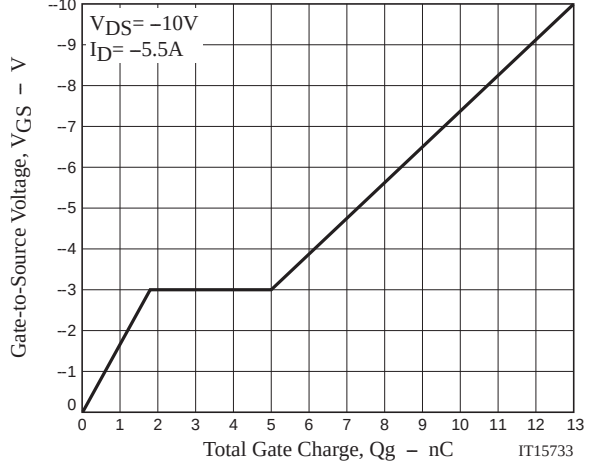
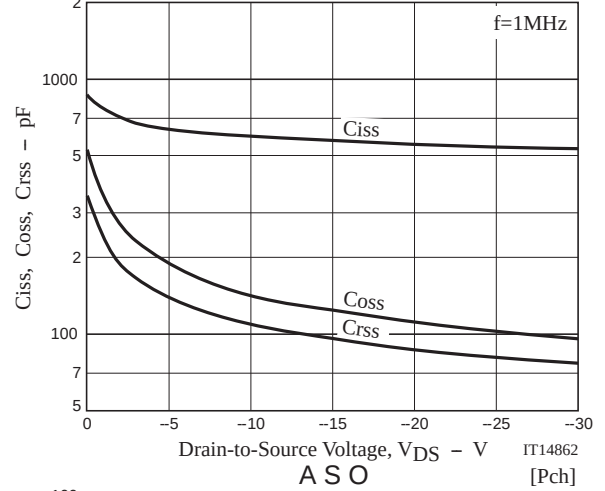
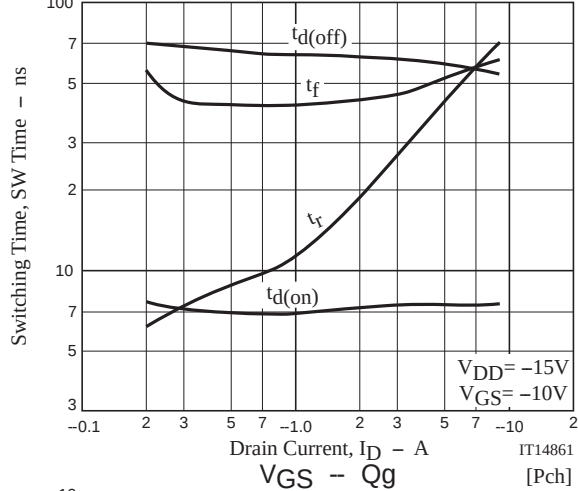
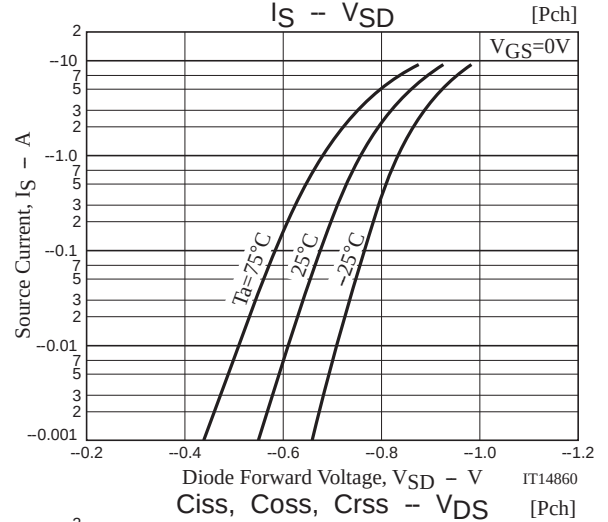
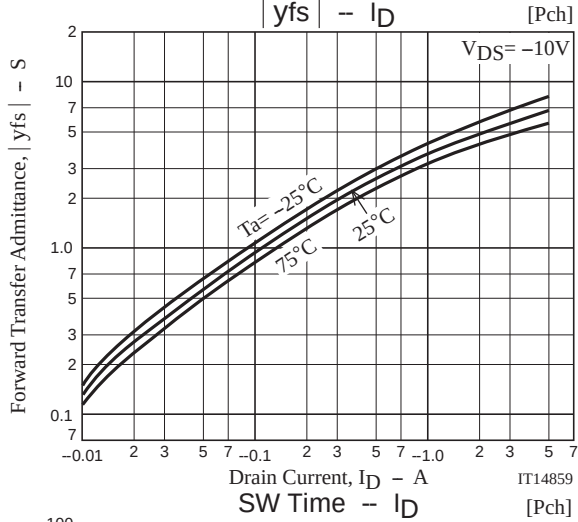
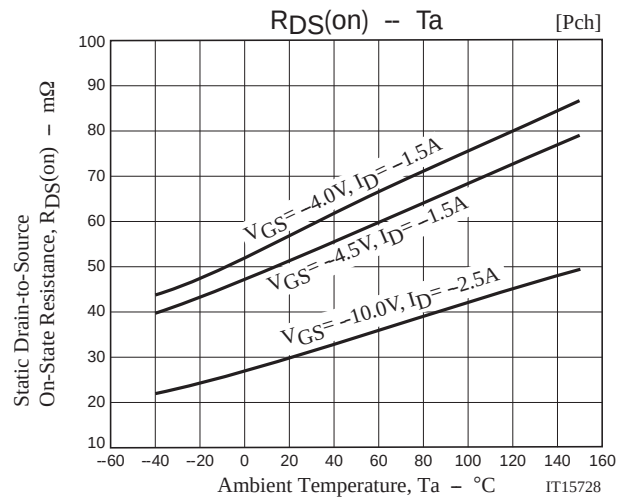
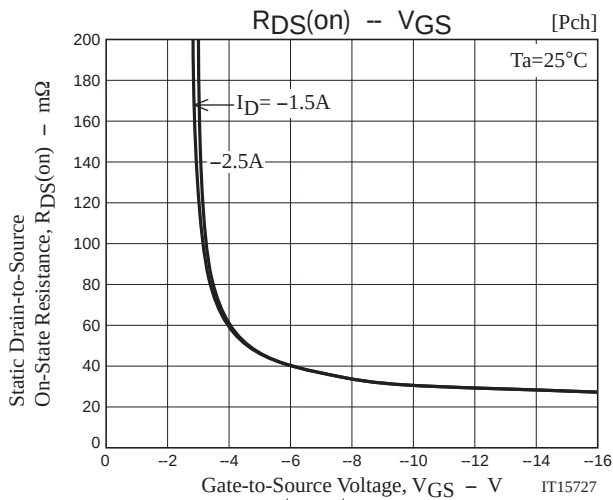


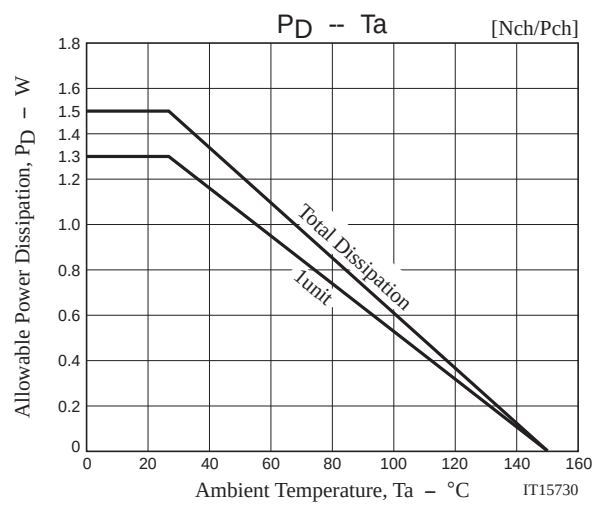
Ordering Information

Device	Package	Shipping	memo
ECH8661-TL-H	ECH8	3,000pcs./reel	Pb Free and Halogen Free









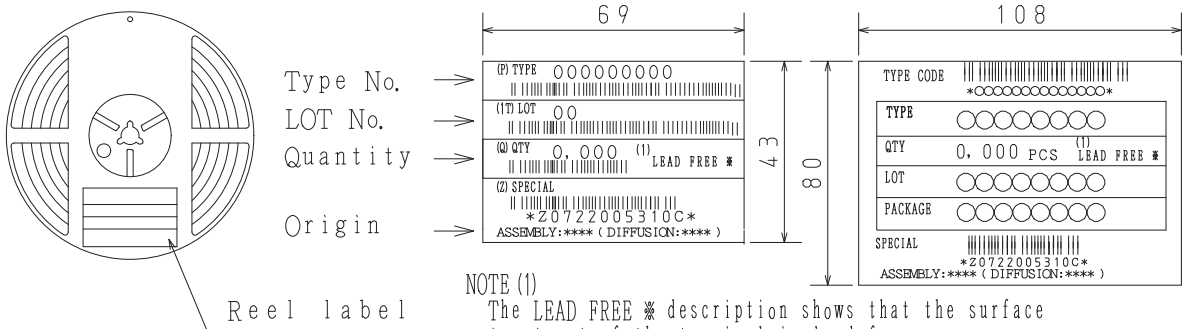
Embossed Taping Specification

ECH8661-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

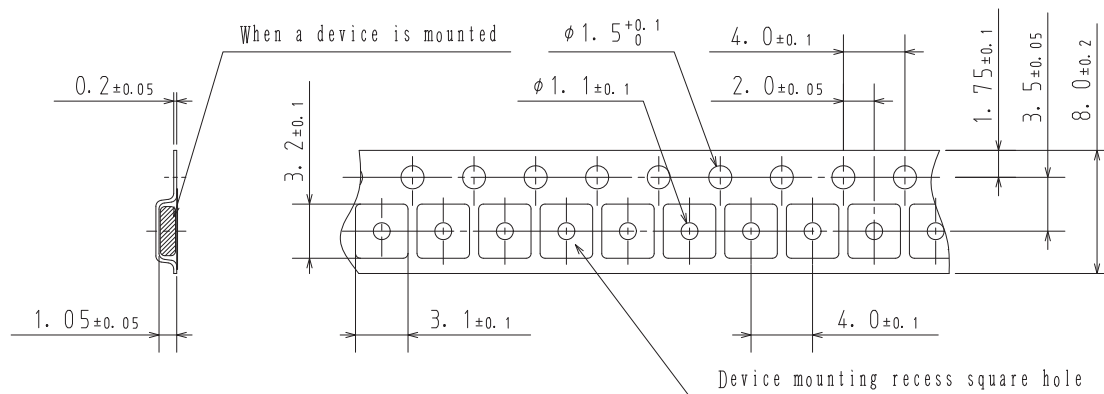
Packing method



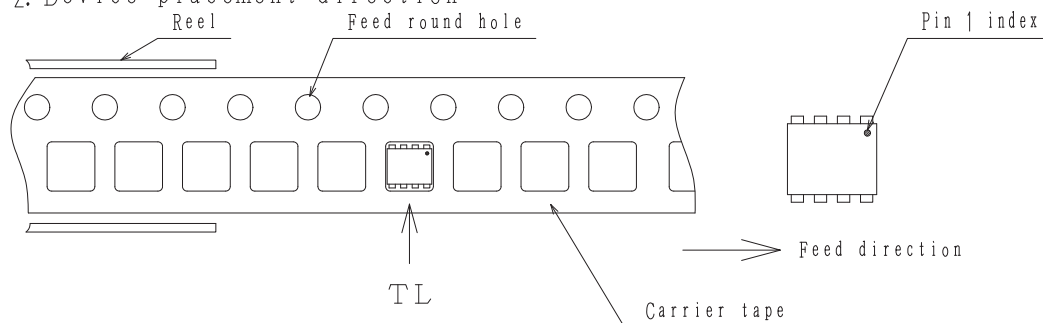
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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

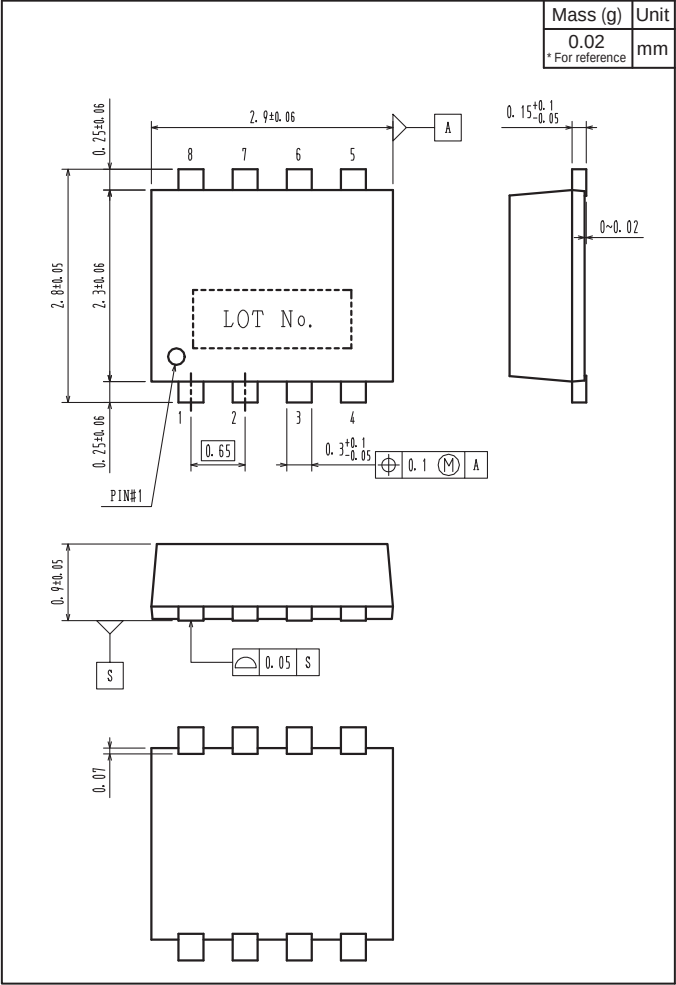


2-2. Device placement direction

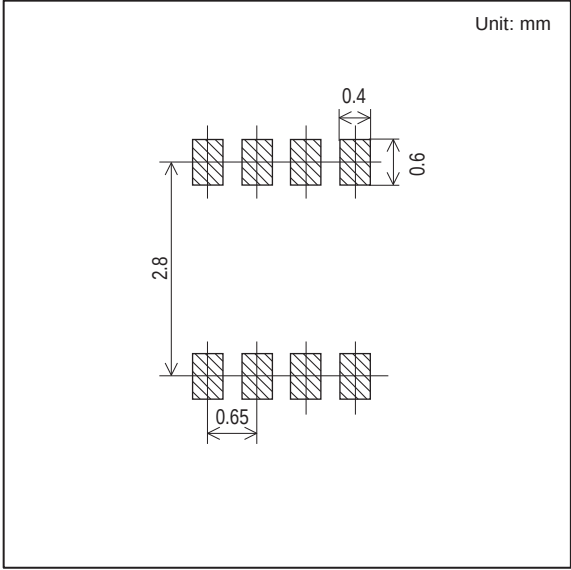


Those with pin 1 index on the feed hole side.....TL

Outline Drawing
ECH8661-TL-H



Land Pattern Example



Note on usage : Since the ECH8661 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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