



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

CPH6445 — N-Channel Silicon MOSFET General-Purpose Switching Device Applications

Features

- 4V drive
- Low ON-resistance
- Protection diode in

Specifications

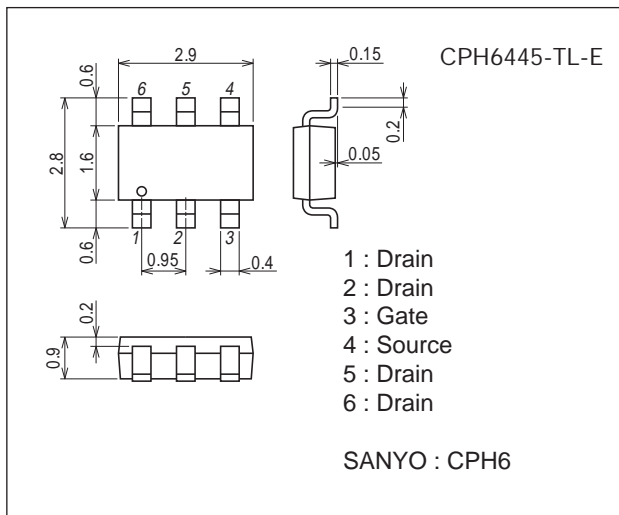
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	VDSS		60	V
Gate-to-Source Voltage	VGSS		±20	V
Drain Current (DC)	ID		3.5	A
Drain Current (Pulse)	IDP	PW≤10μs, duty cycle≤1%	14	A
Allowable Power Dissipation	PD	When mounted on ceramic substrate (1200mm²×0.8mm)	1.6	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Package Dimensions

unit : mm (typ)

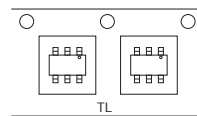
7018A-003



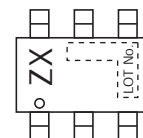
Product & Package Information

- Package : CPH6
- JEITA, JEDEC : SC-74, SOT-26, SOT-457
- Minimum Packing Quantity : 3,000 pcs./reel

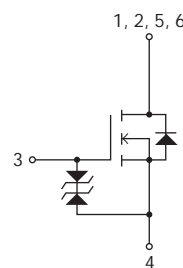
Packing Type: TL



Marking



Electrical Connection

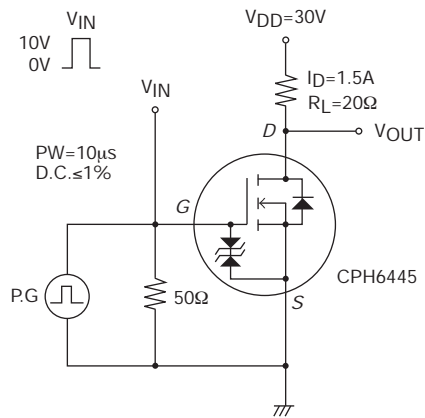


CPH6445

Electrical Characteristics at Ta=25°C

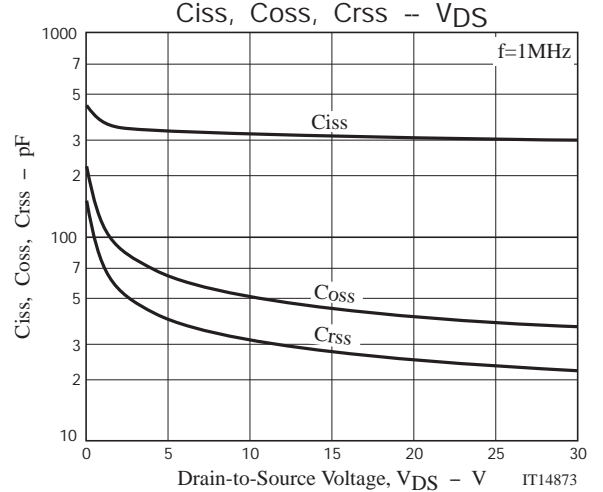
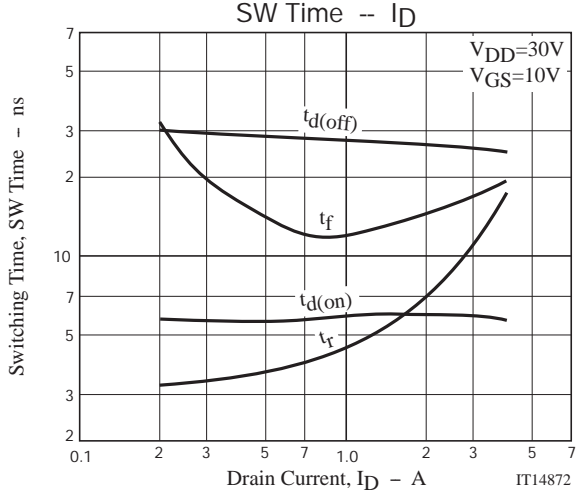
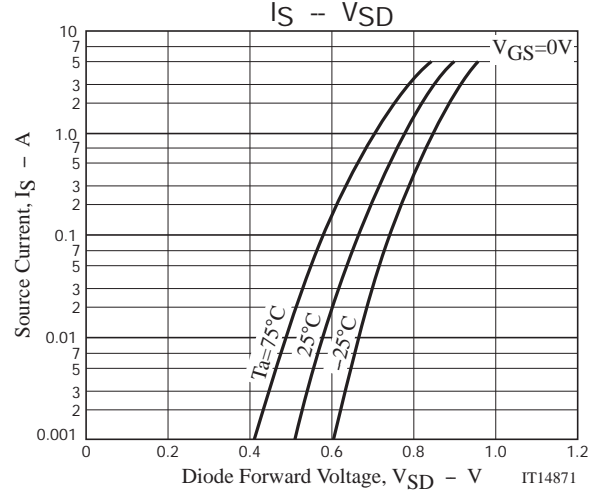
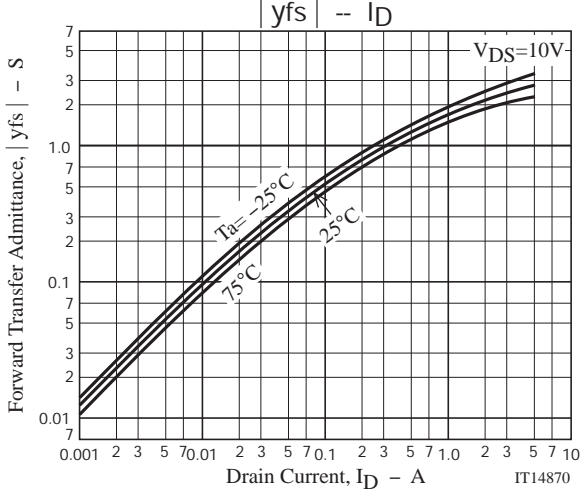
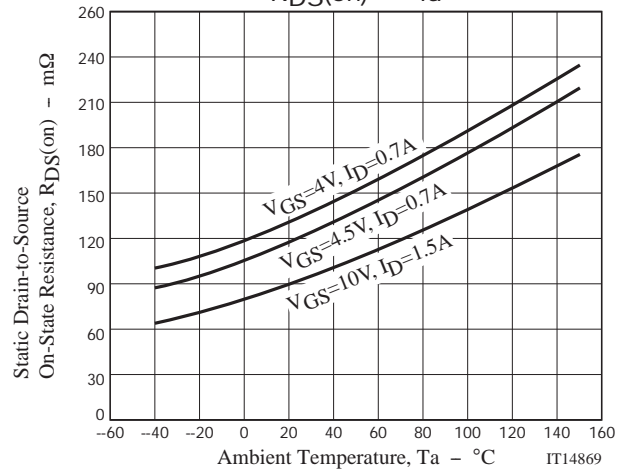
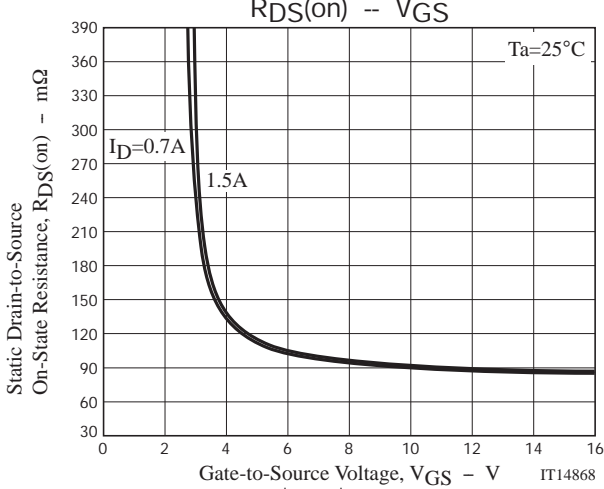
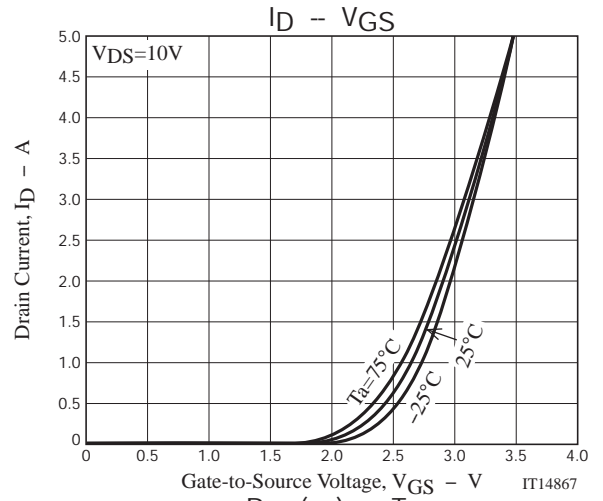
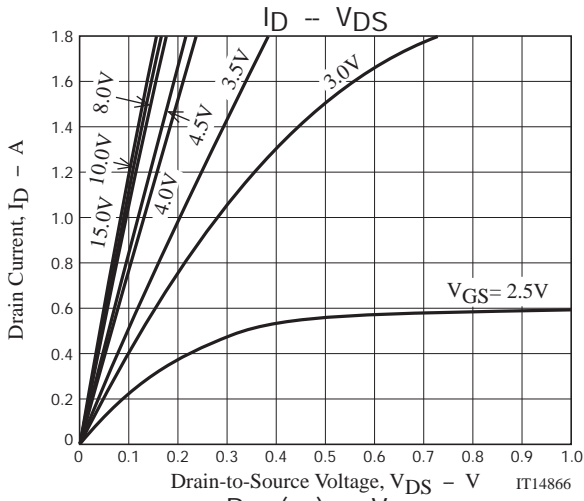
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V(BR)DSS	I _D =1mA, V _{GS} =0V	60			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =60V, V _{GS} =0V			1	μA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±16V, V _{DS} =0V			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =10V, I _D =1mA	1.2		2.6	V
Forward Transfer Admittance	y _{fs}	V _{DS} =10V, I _D =1.5A	1.2	2.0		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =1.5A, V _{GS} =10V		92	117	mΩ
	R _{DS(on)2}	I _D =0.7A, V _{GS} =4.5V		120	168	mΩ
	R _{DS(on)3}	I _D =0.7A, V _{GS} =4V		132	185	mΩ
Input Capacitance	C _{iss}	V _{DS} =20V, f=1MHz		310		pF
Output Capacitance	C _{oss}			40		pF
Reverse Transfer Capacitance	C _{rss}			25		pF
Turn-ON Delay Time	t _{d(on)}		See specified Test Circuit.		6.0	
Rise Time	t _r			5.5		ns
Turn-OFF Delay Time	t _{d(off)}			27		ns
Fall Time	t _f			13		ns
Total Gate Charge	Q _g	V _{DS} =30V, V _{GS} =10V, I _D =3.5A			6.8	
Gate-to-Source Charge	Q _{gs}			1.1		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			1.4		nC
Diode Forward Voltage	V _{SD}		I _S =3.5A, V _{GS} =0V		0.85	1.2

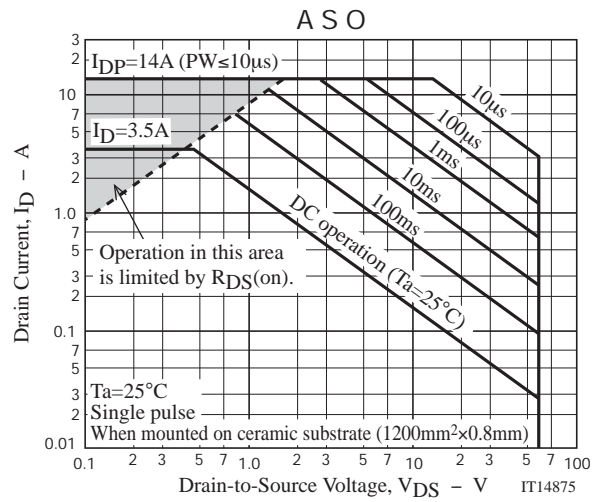
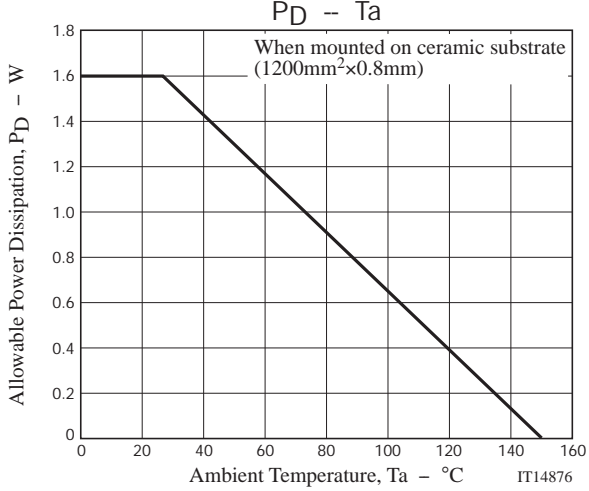
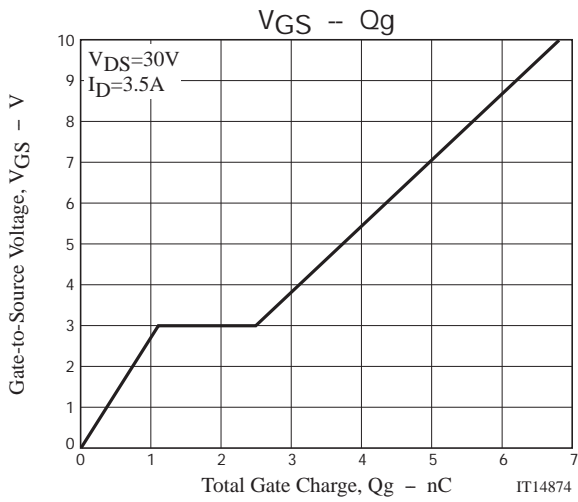
Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
CPH6445-TL-E	CPH6	3,000pcs./reel	Pb Free





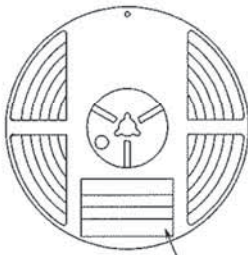
Embossed Taping Specification

CPH6445-TL-E

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)
CPH6	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

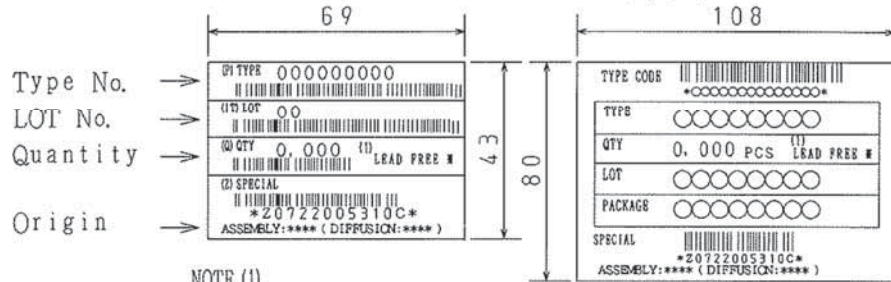


Reel label

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.



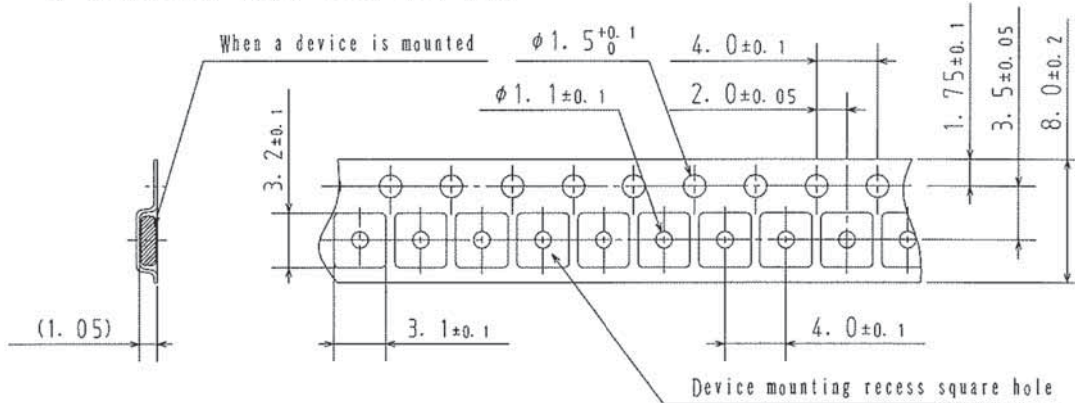
NOTE (1)

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

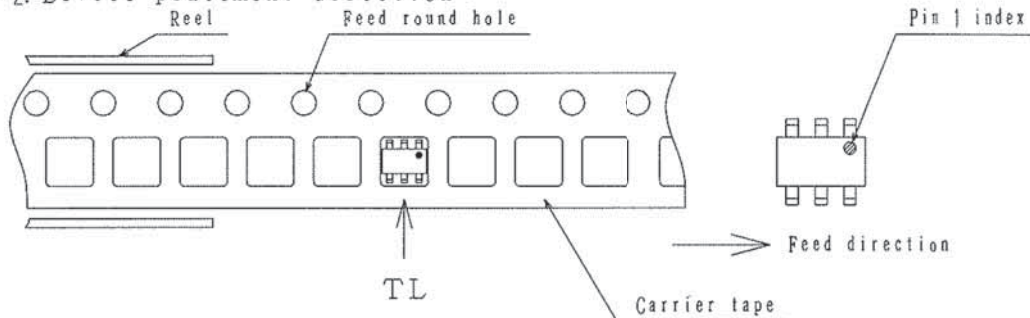
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A
LEAD FREE 4	JEITA Phase 3

2. Taping configuration

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



2-2. Device placement direction

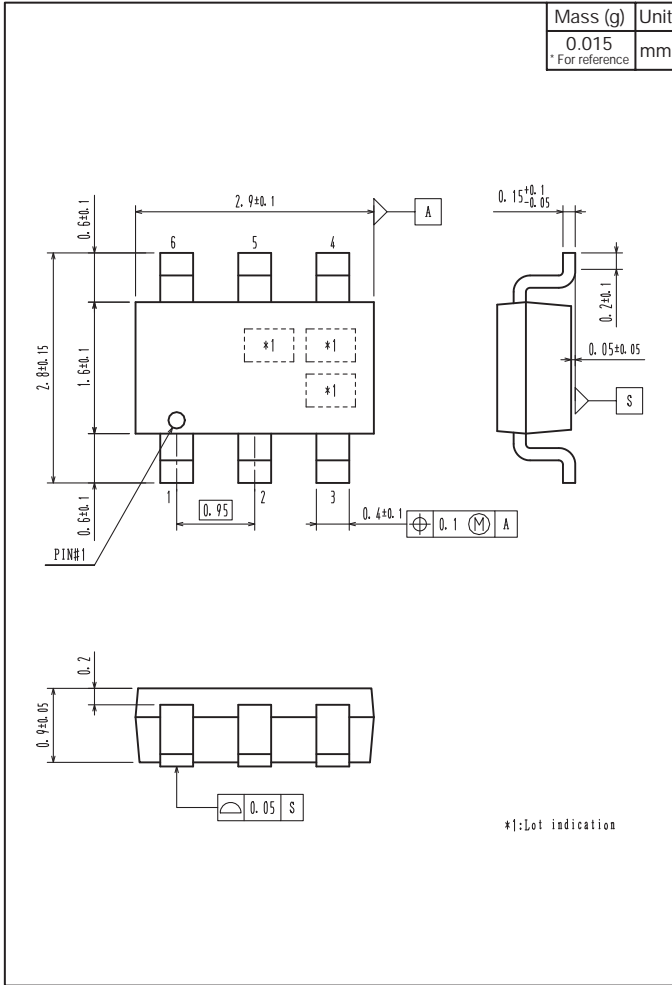


Those with pin 1 index on the feed hole side.....TL

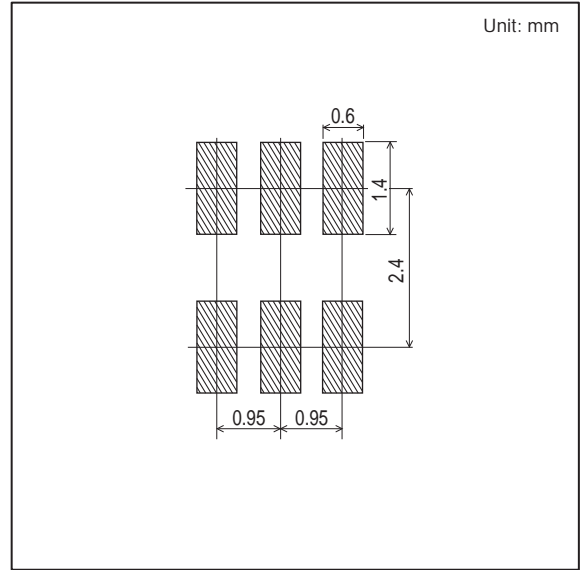
CPH6445

Outline Drawing

CPH6445-TL-E



Land Pattern Example



Note on usage : Since the CPH6445 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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