

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0V$	1700			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=1360V, V_{GS}=0V$			1	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$			4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=20V, I_D=1.5A$	1.2	2.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=1.5A, V_{GS}=10V$		8.2	10.5	Ω
Input Capacitance	C_{iss}	$V_{DS}=30V, f=1MHz$		850		pF
Output Capacitance	C_{oss}			90		pF
Reverse Transfer Capacitance	C_{rss}			27		pF
Turn-ON Delay Time	$t_{d(on)}$	See Fig.2		19		ns
Rise Time	t_r			21		ns
Turn-OFF Delay Time	$t_{d(off)}$			200		ns
Fall Time	t_f			55		ns
Total Gate Charge	Q_g	$V_{DS}=200V, V_{GS}=10V, I_D=3A$		48		nC
Gate-to-Source Charge	Q_{gs}			6		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			22		nC
Diode Forward Voltage	V_{SD}	$I_S=3A, V_{GS}=0V$		0.8	1.5	V
Reverse Recovery Time	t_{rr}	See Fig.3		410		ns
Reverse Recovery Charge	Q_{rr}			3000		nC

Fig.1 Unclamped Inductive Switching Test Circuit

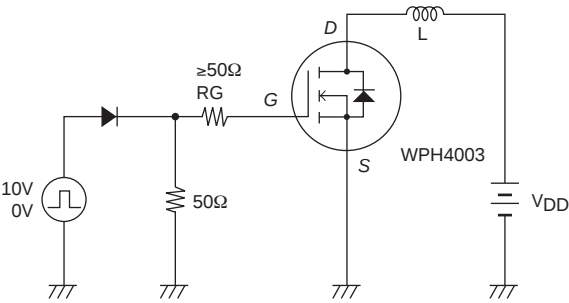


Fig.2 Switching Time Test Circuit

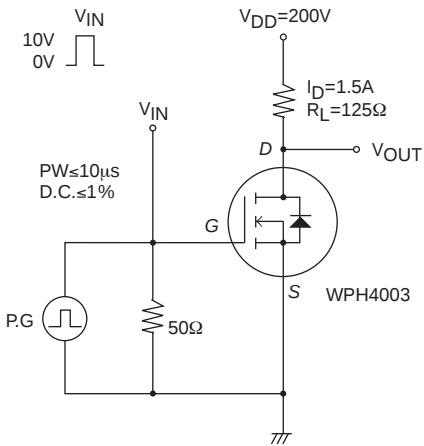
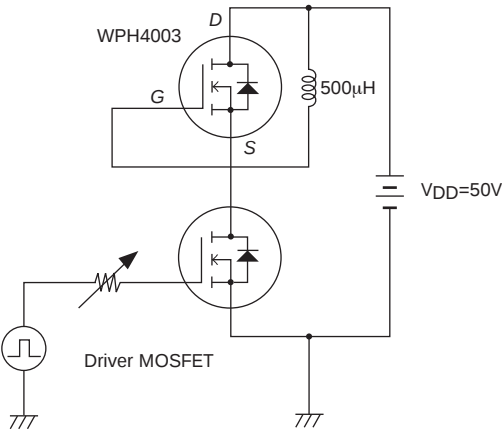
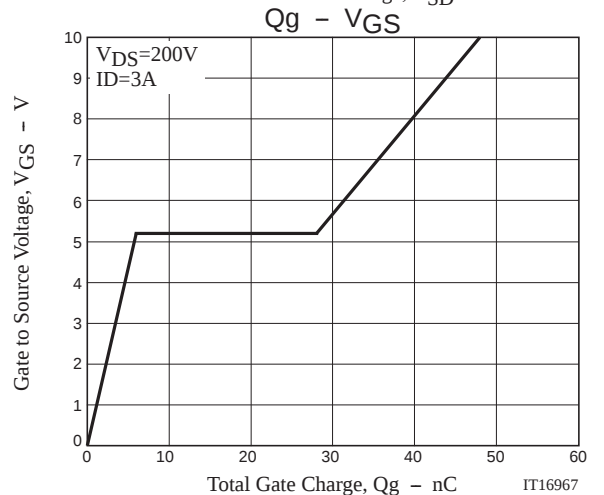
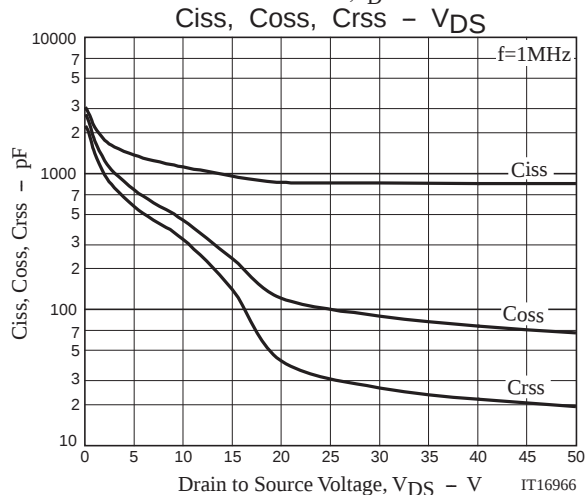
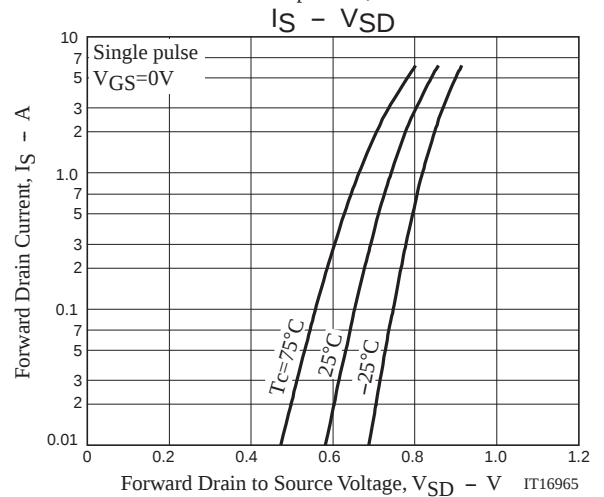
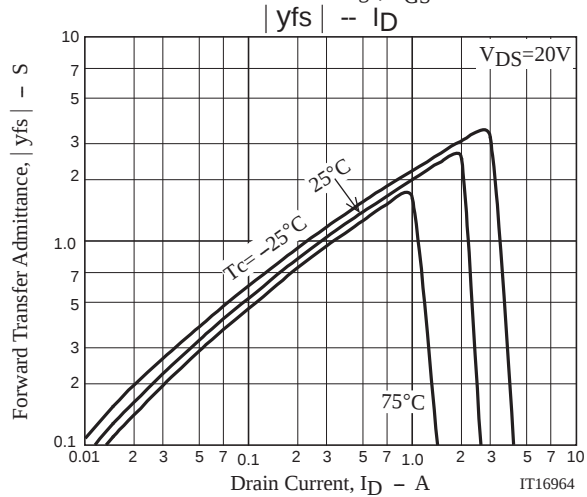
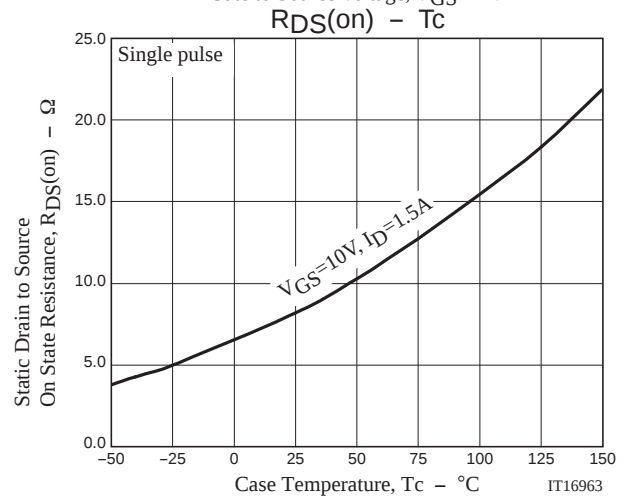
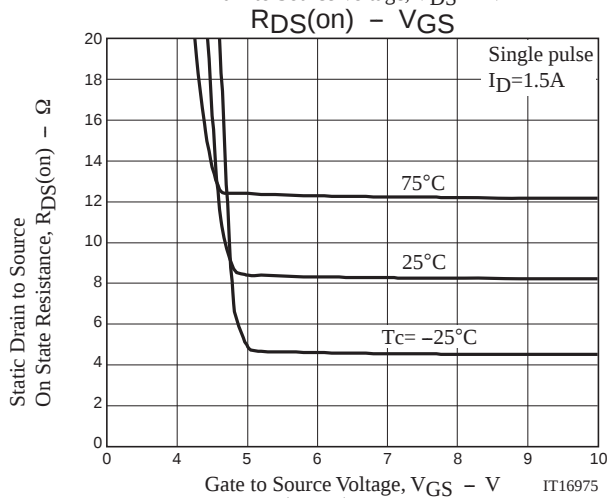
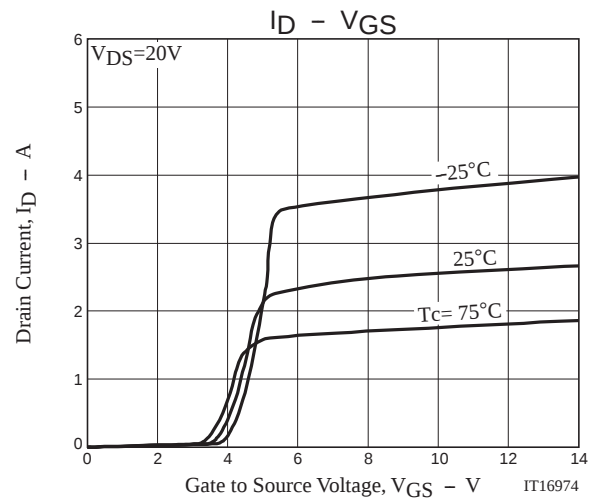
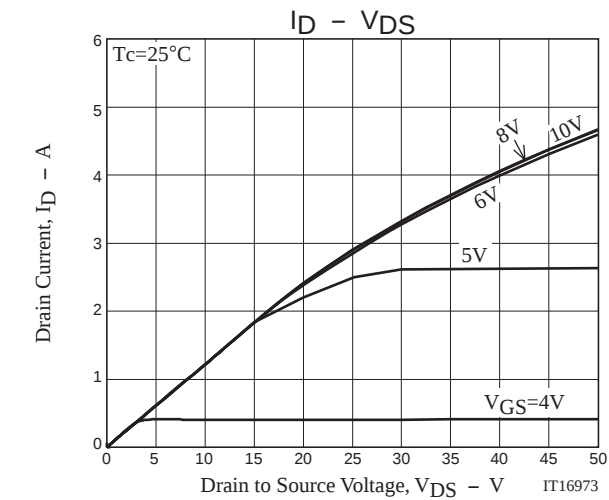


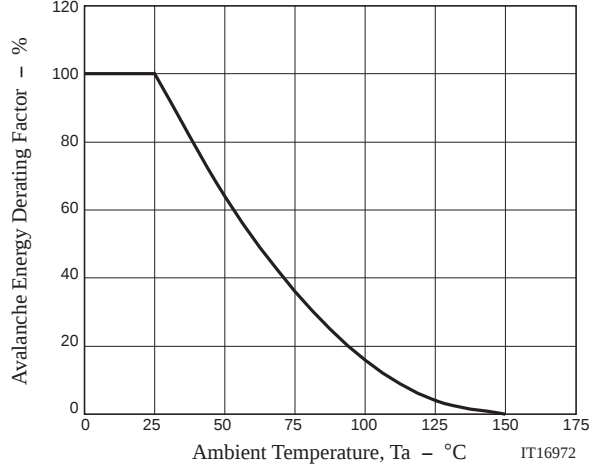
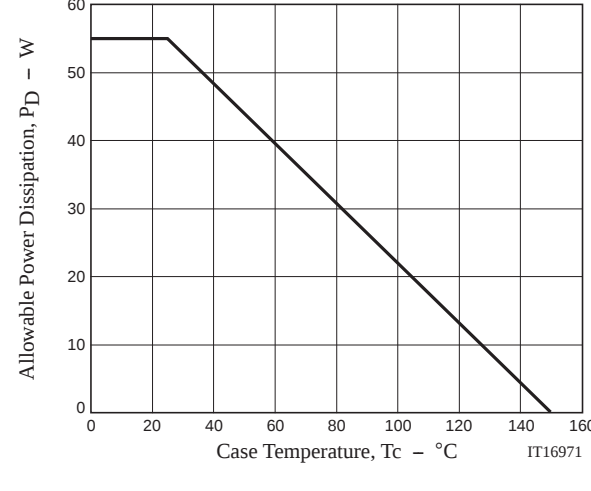
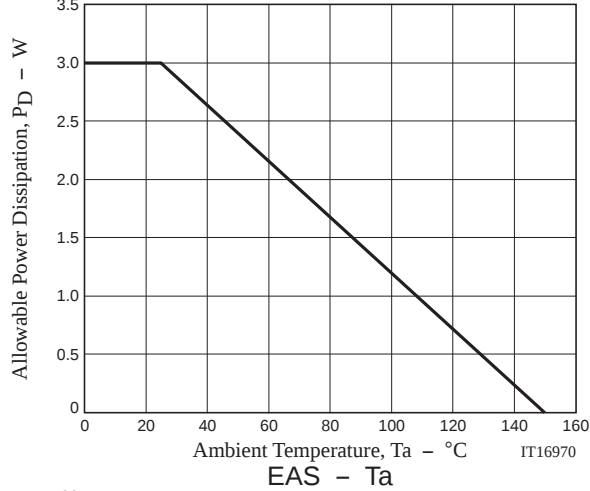
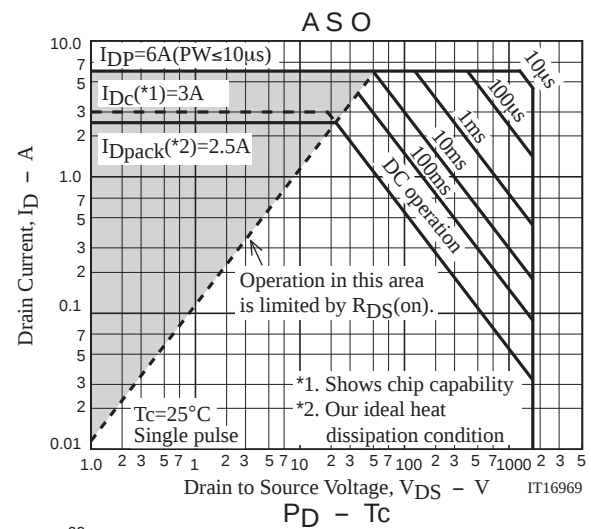
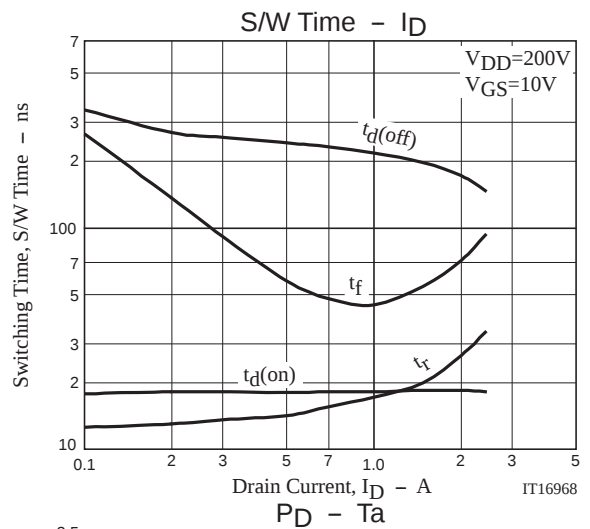
Fig.3 Reverse Recovery Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
WPH4003-1E	TO-3PF-3L	30pcs./magazine	Pb Free





Magazine Specification

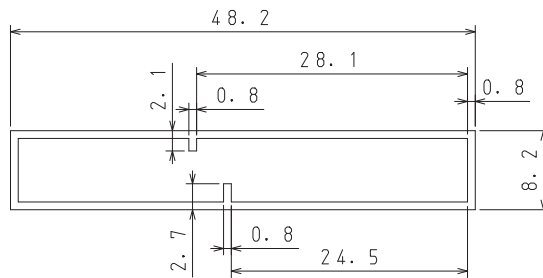
WPH4003-1E

1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-3PF-3L	30	360	1440	SPD-0V0001 12 magazines contained Dimensions:mm (external) 568×150×55	SPD-LV0010 4 inner boxes contained Dimensions:mm (external) 590×225×178

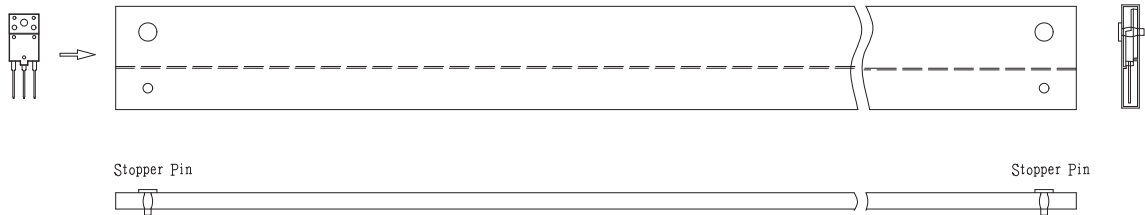
2. Magazine dimensions

(unit:mm)



Tolerance=±0.2mm
 Thickness=0.8±0.2mm
 Length =508.0±1mm
 Material =PVC or PET
 (Antistatic treatment)

3. Storage method to magazine



4. Inner box label (unit:mm)

Type No.	→	(P) TYPE 000000000	43
LOT No.	→	(T) LOT 00	
Quantity	→	(Q) QTY 0,000 (1) LEAD FREE *	
Origin	→	(Z) SPECIAL *Z0722005310C* ASSEMBLY:**** (DIFFUSION:****)	

NOTE (1)

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

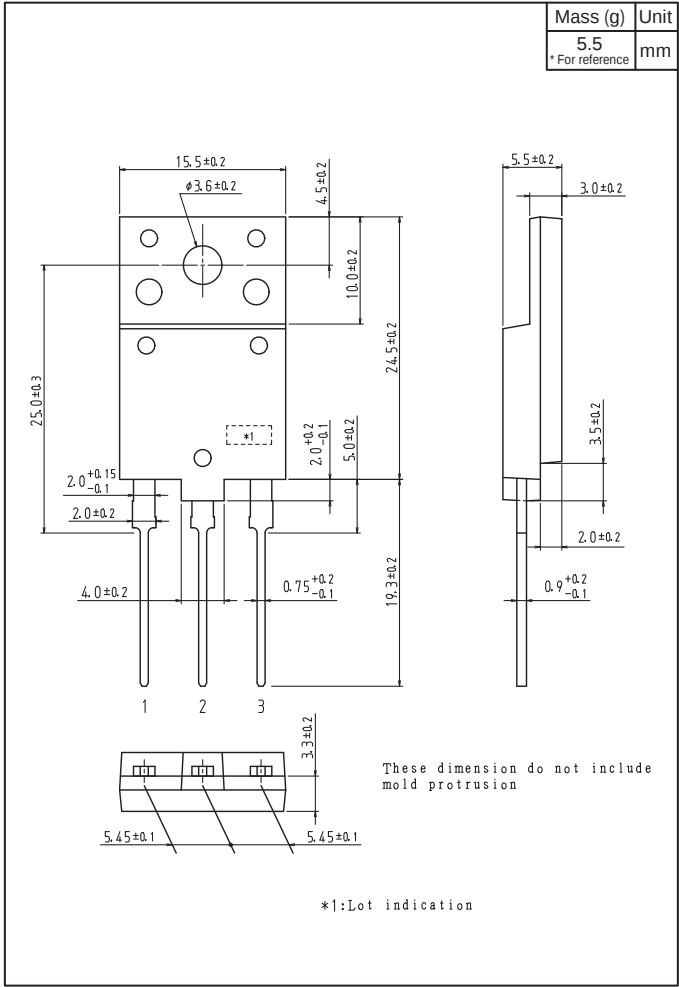
Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

5. Outer box label (unit:mm)

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

108	TYPE CODE	80
	000000000000	
	TYPE	
	QTY 0,000 PCS (1) LEAD FREE *	
	LOT	
	PACKAGE	
	SPECIAL	
	Z0722005310C	
	ASSEMBLY:**** (DIFFUSION:****)	

Outline Drawing
WPH4003-1E



Note on usage : Since the WPH4003 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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