

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=1mA, V_{GS}=0V$	1500			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=1200V, V_{GS}=0V$			100	$\mu A$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=16V, V_{DS}=0V$			$\pm 10$	$\mu A$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.5		3.5	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=20V, I_D=1A$	0.7	1.4		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=1A, V_{GS}=10V$		10	13	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=30V, f=1MHz$		380		pF
Output Capacitance	$C_{oss}$			70		pF
Reverse Transfer Capacitance	$C_{rss}$			40		pF
Turn-ON Delay Time	$t_{d(on)}$	See Fig.2		12		ns
Rise Time	$t_r$			37		ns
Turn-OFF Delay Time	$t_{d(off)}$			152		ns
Fall Time	$t_f$			59		ns
Total Gate Charge	$Q_g$	$V_{DS}=200V, V_{GS}=10V, I_D=2A$		37.5		nC
Gate-to-Source Charge	$Q_{gs}$			2.7		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$			20		nC
Diode Forward Voltage	$V_{SD}$	$I_S=2A, V_{GS}=0V$		0.88	1.2	V

Fig.1 Avalanche Resistance Test Circuit

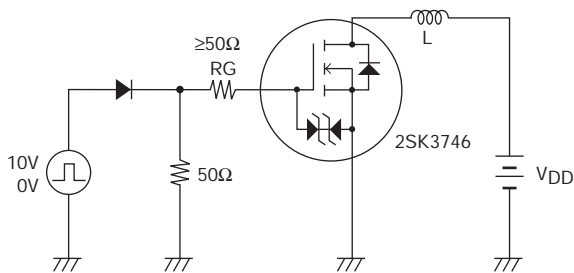
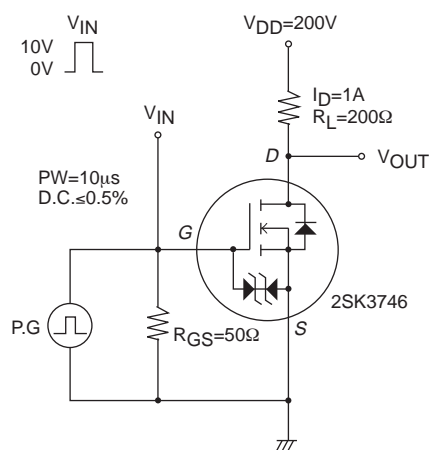
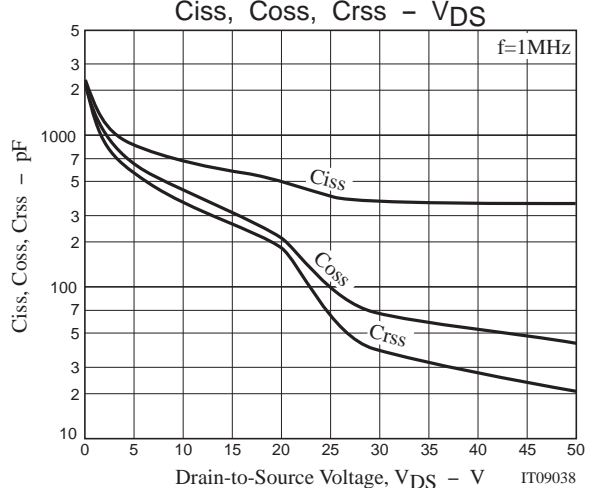
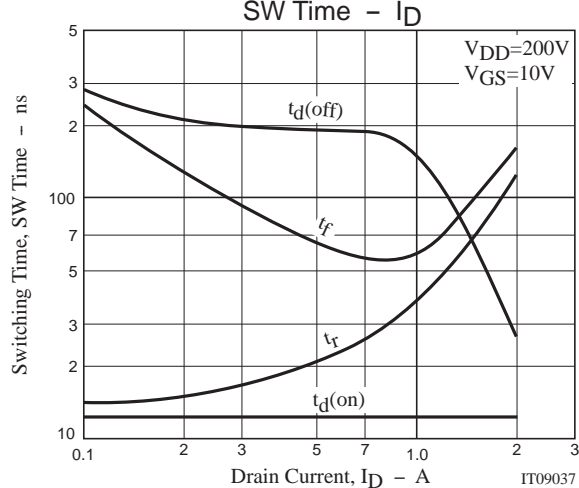
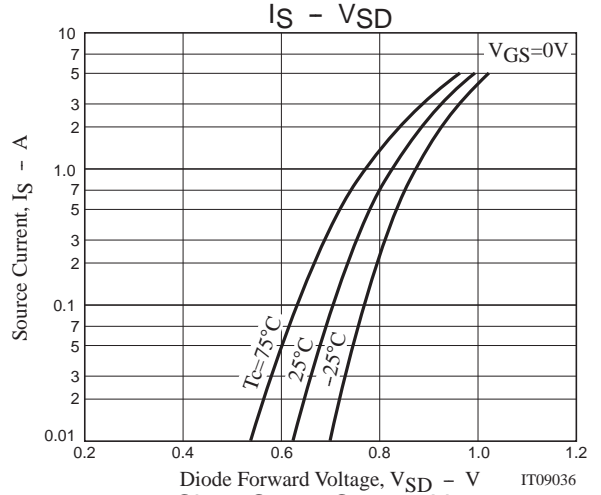
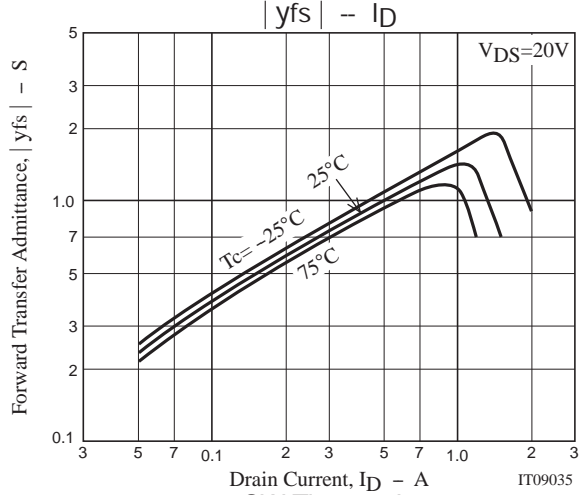
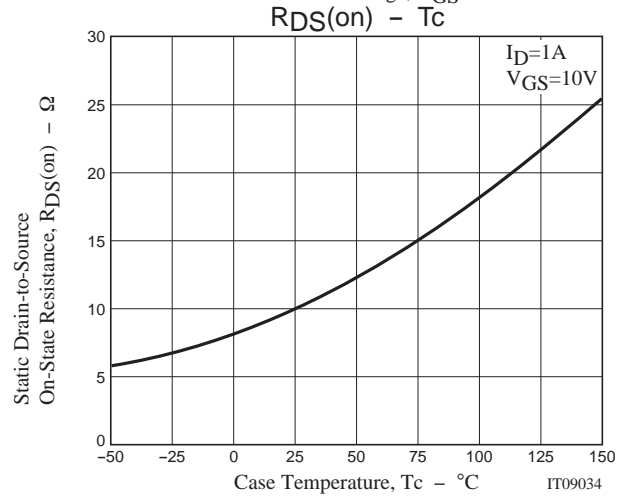
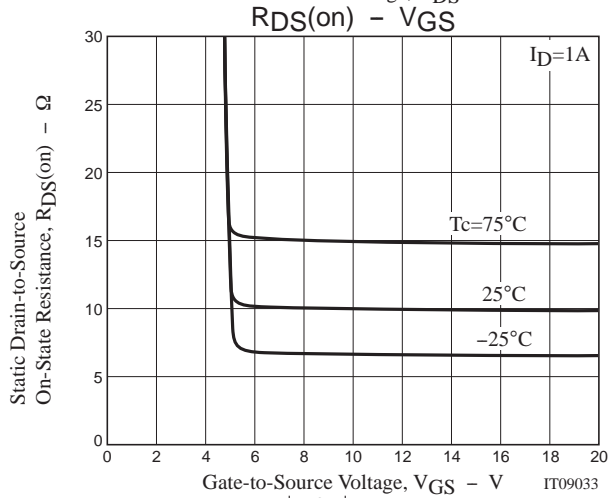
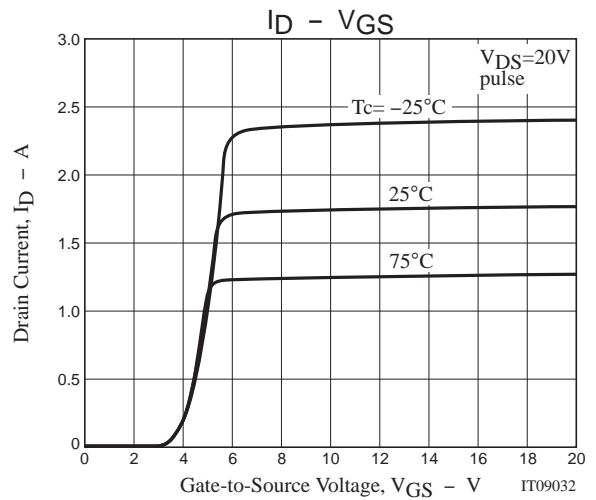
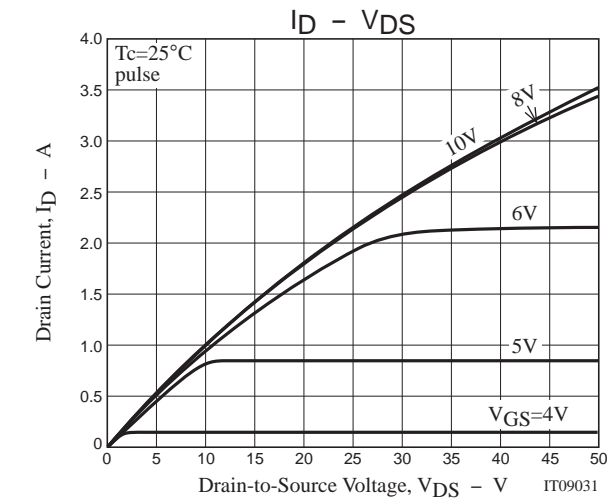


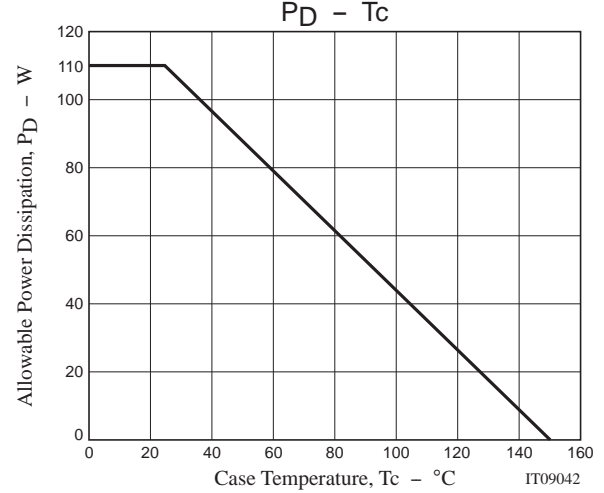
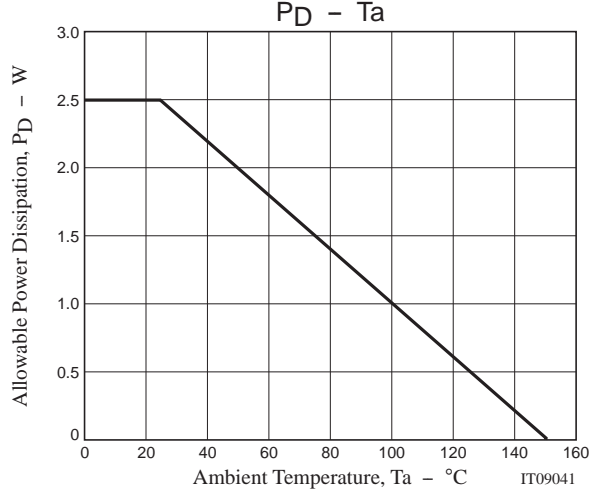
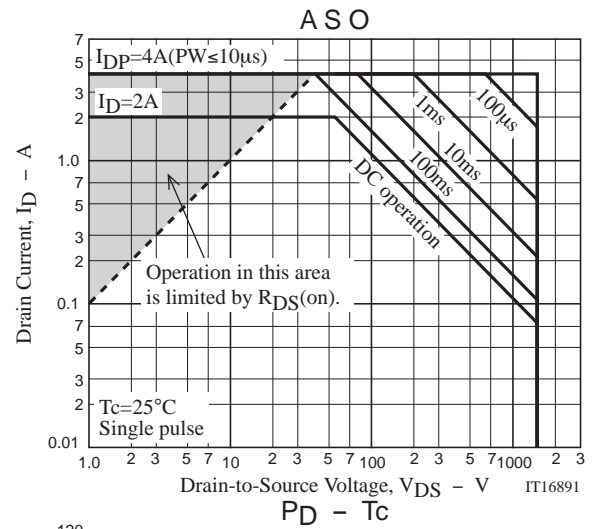
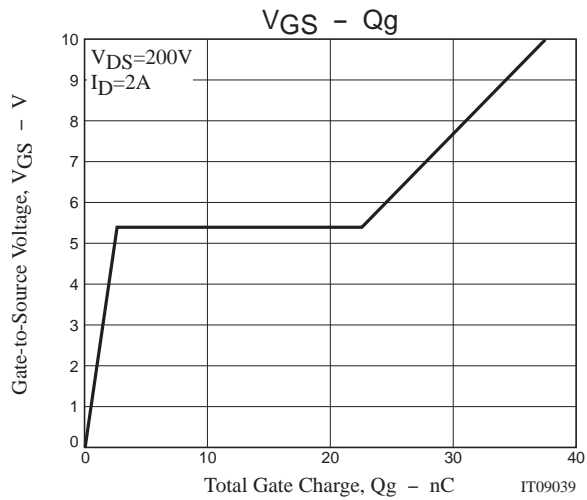
Fig.2 Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
2SK3746-1E	TO-3P-3L	30pcs./magazine	Pb Free





## Magazine Specification

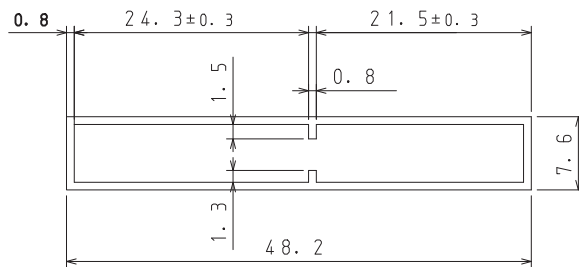
2SK3746-1E

## 1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-3P-3L	30	450	1800	SPD-0V0001 15 magazines contained Dimensions:mm (external) 568×150×55	SPD-LV0010 4 inner boxes contained Dimensions:mm (external) 590×225×178

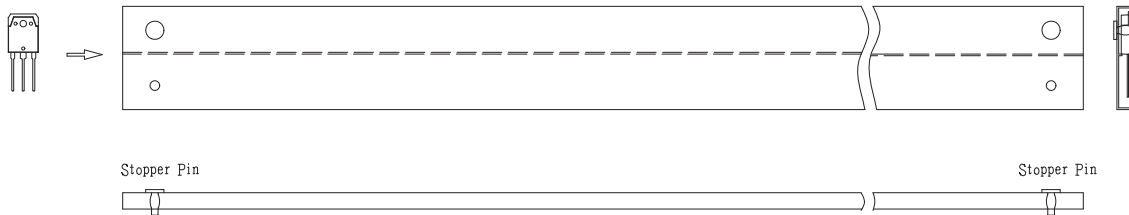
## 2. Magazine dimensions

(unit:mm)

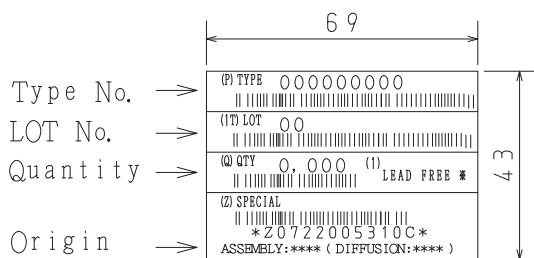


Tolerance=±0.2mm  
 Thickness=0.8±0.2mm  
 Length =508.0±1mm  
 Material =PVC or PET  
 (Antistatic treatment)

## 3. Storage method to magazine

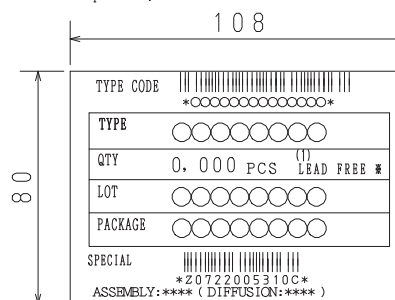


## 4. Inner box label (unit:mm)



## 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.

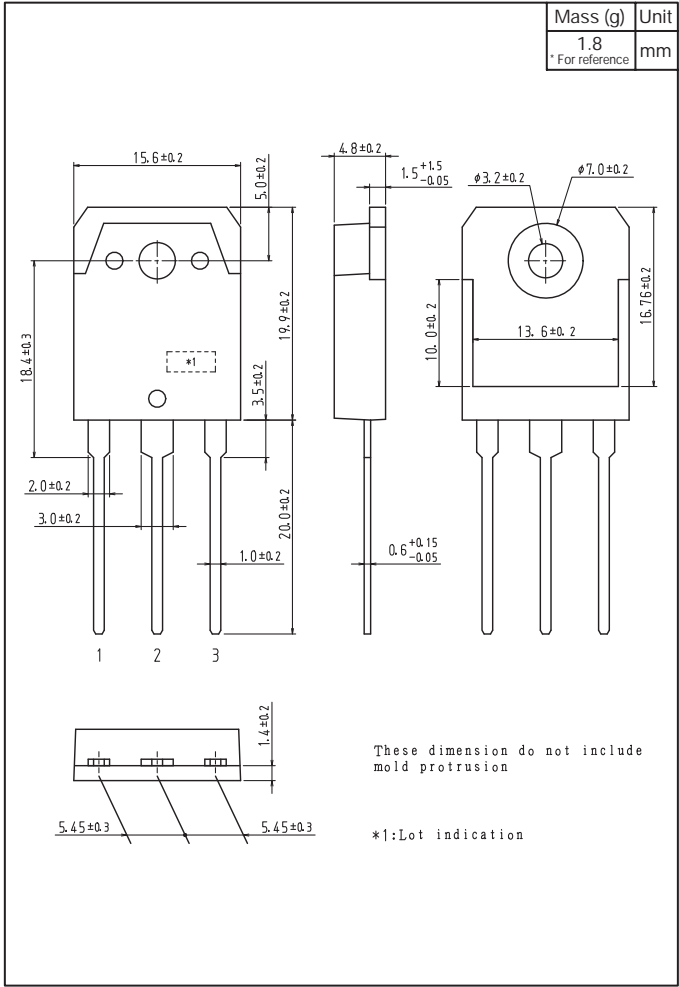


## NOTE (1)

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

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

Outline Drawing  
2SK3746-1E



Note on usage : Since the 2SK3746 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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