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	| yfs |	V_{DS}=10V, I_D=50A	45	75		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=50A, V_{GS}=10V		3.8	5.0	mΩ
	R_{DS}(on)2	I_D=50A, V_{GS}=4V		4.9	7.0	mΩ
Input Capacitance	Ciss	V_{DS}=20V, f=1MHz		12500		pF
Output Capacitance	Coss			1200		pF
Reverse Transfer Capacitance	Crss			950		pF
Turn-ON Delay Time	t_d(on)	See Fig.2		80		ns
Rise Time	t_r			630		ns
Turn-OFF Delay Time	t_d(off)			860		ns
Fall Time	t_f			750		ns
Total Gate Charge	Qg	V_{DS}=30V, V_{GS}=10V, I_D=100A		220		nC
Gate-to-Source Charge	Qgs			30		nC
Gate-to-Drain “Miller” Charge	Qgd			55		nC
Diode Forward Voltage	V_{SD}	I_S=100A, V_{GS}=0V		1.0	1.2	V

Fig.1 Avalanche Resistance Test Circuit

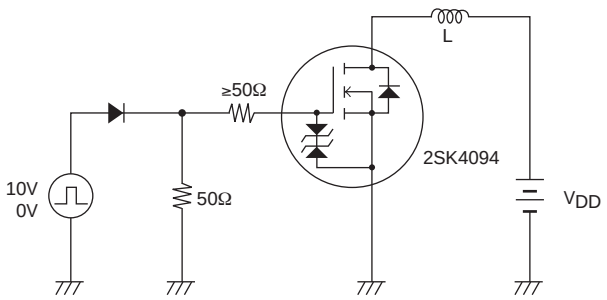
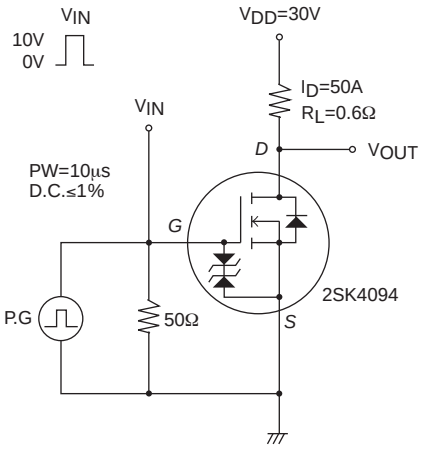
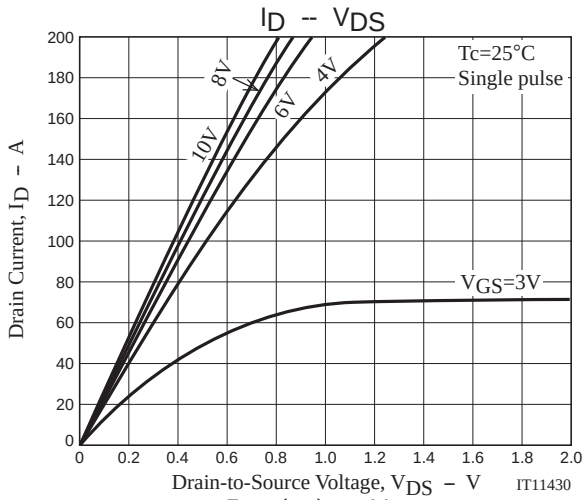


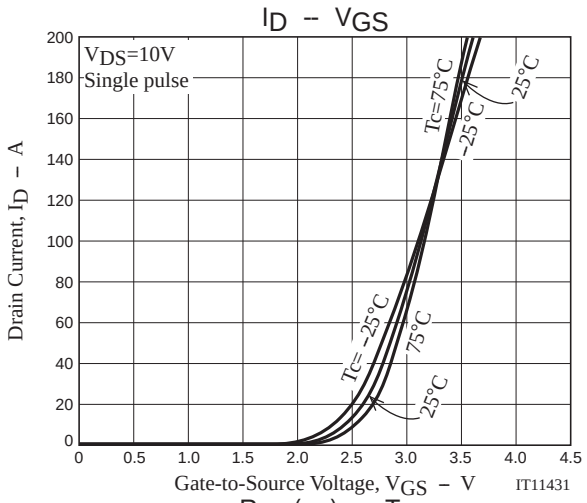
Fig.2 Switching Time Test Circuit

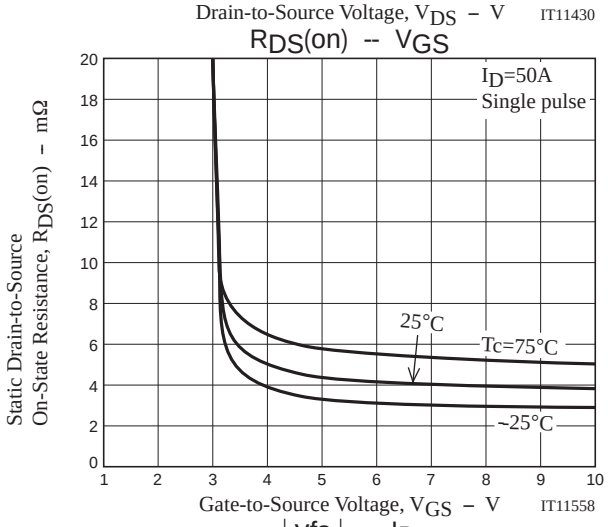


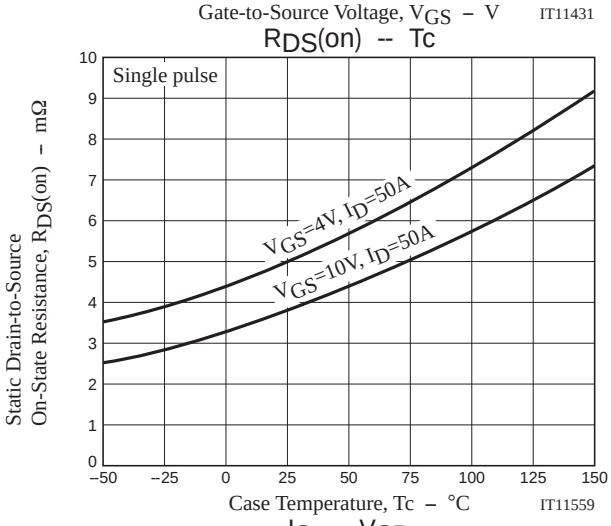
Ordering Information

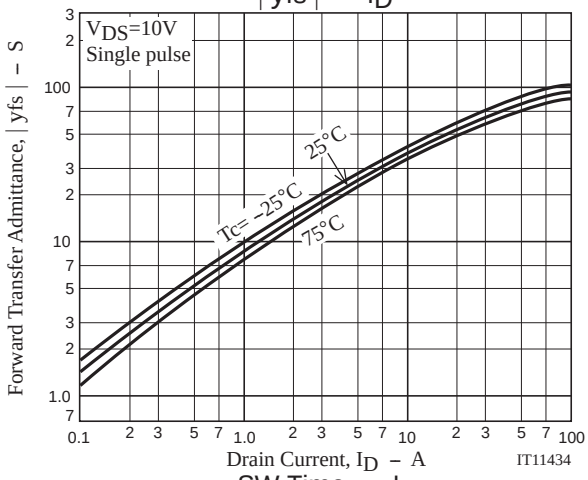
Device	Package	Shipping	memo
2SK4094-1E	TO-220-3L	50pcs./magazine	Pb Free

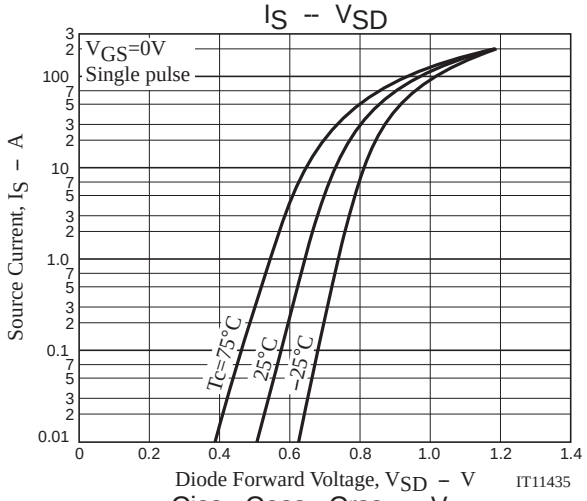


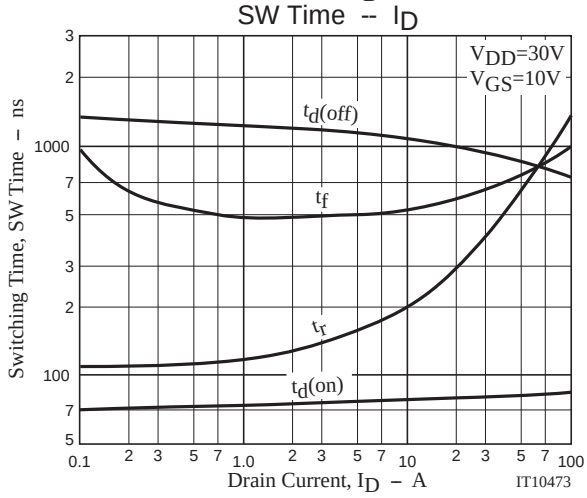


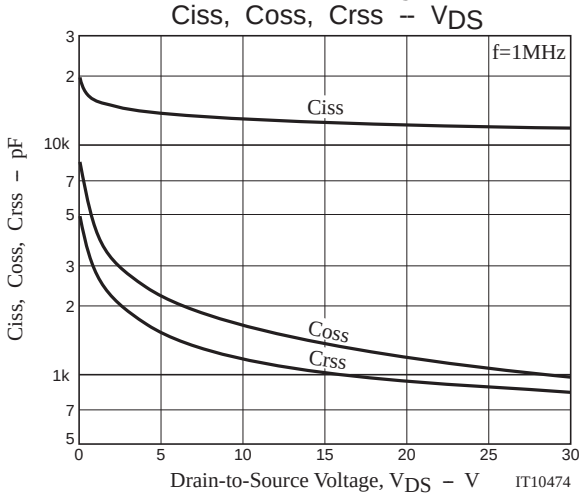


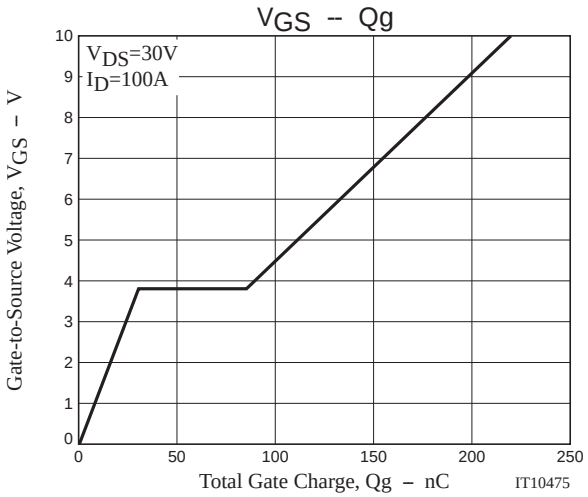


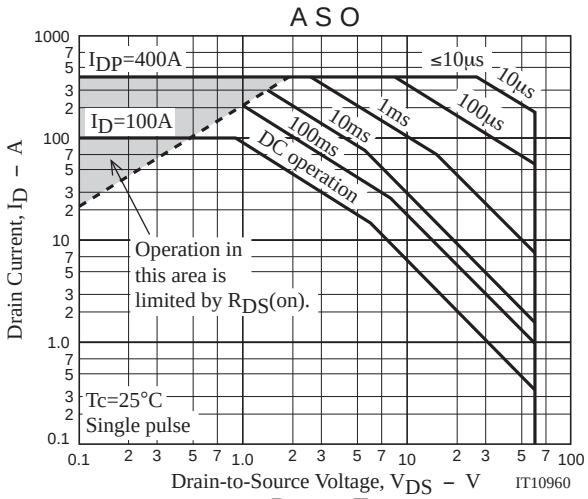


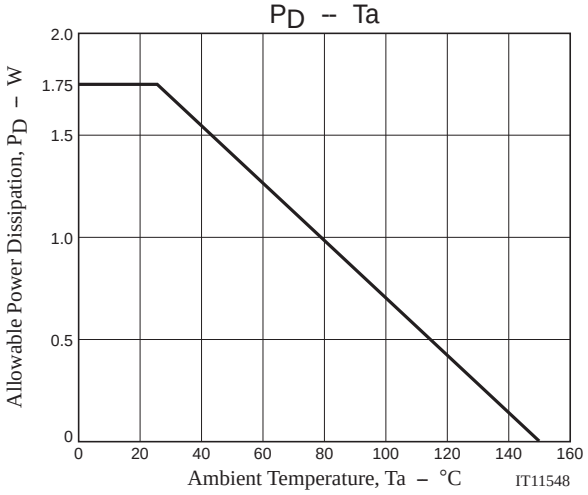


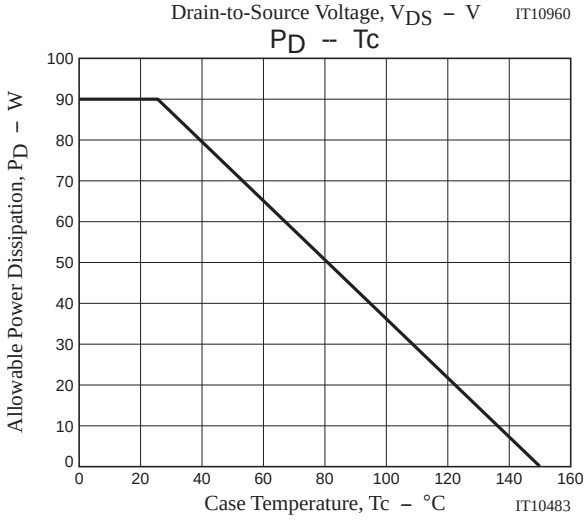


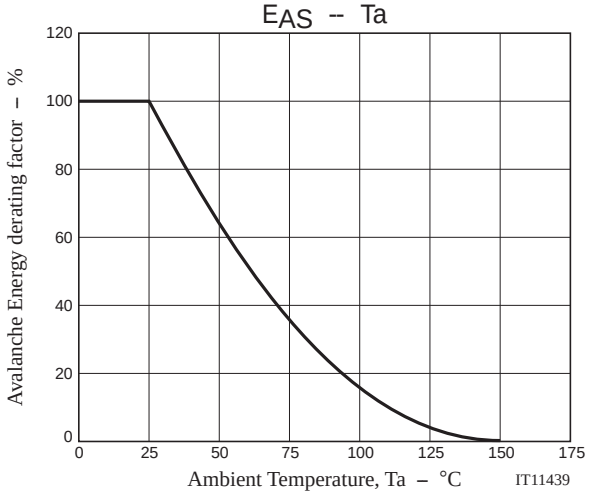












Magazine Specification

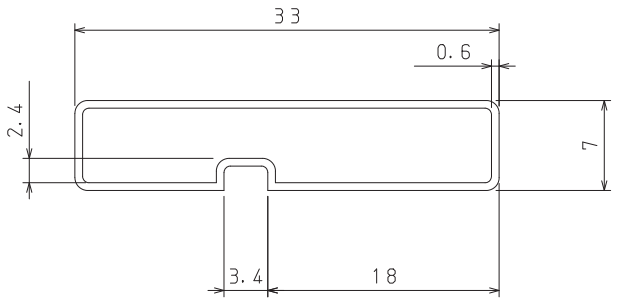
2SK4094-1E

1. Packing Format

Package Name	Maximum Number of devices contained (pcs)			Packing format	
	Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-220-3L	50	1,000	4000	SPD-0V0001 20 magazines contained Dimensions:mm (external) 568×150×55	SPD-LV0010 4 inner boxes contained Dimensions:mm (external) 590×225×178

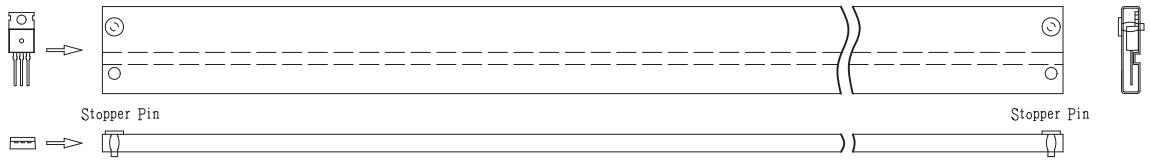
2. Magazine dimensions

(unit:mm)

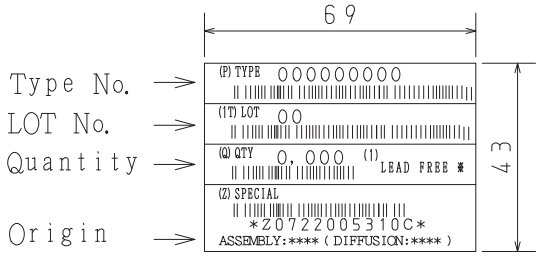


Tolerance=±0.2mm
Thickness=0.6+0.2/−0mm
Length =512.6±1mm
Material =PVC (Antistatic treatment)

3. Storage method to magazine

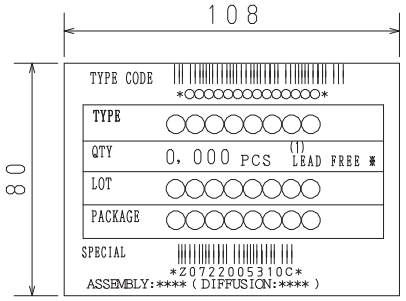


4. Inner box label (unit:mm)



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.

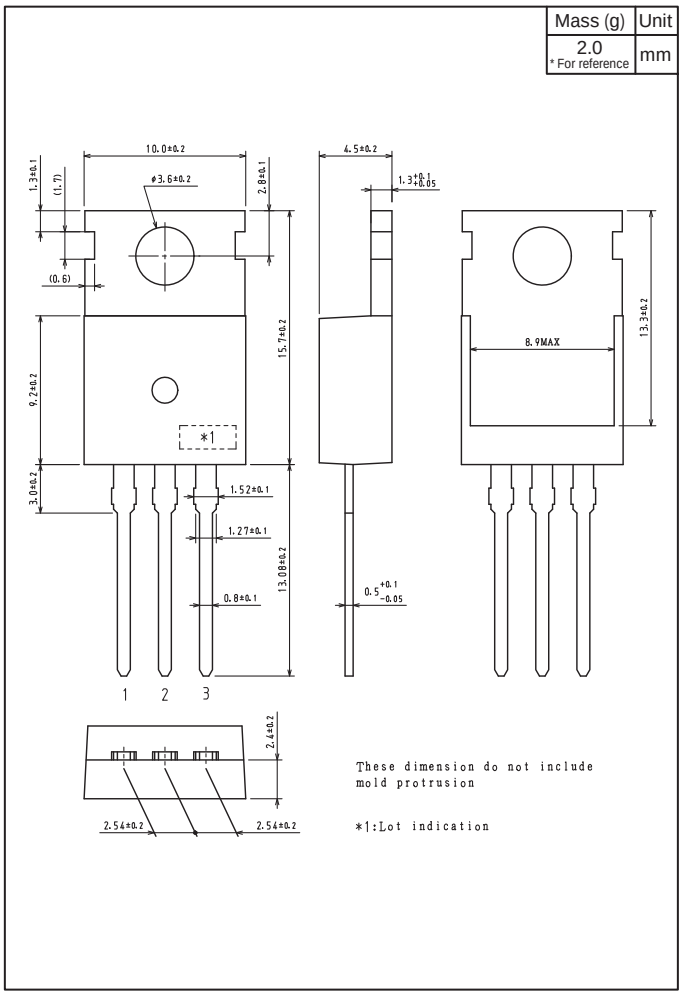


NOTE (1)
The LEAD FREE ※ description shows that the surface treatment of the terminal is lead free.

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

Outline Drawing

2SK4094-1E



Note on usage : Since the 2SK4094 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.