

2SJ652 — P-Channel Silicon MOSFET

General-Purpose Switching Device

Applications

Features

- ON-resistance $R_{DS(on)1}=28.5m\Omega$ (typ.)
- Input capacitance $C_{iss}=4360pF$ (typ.)
- 4V drive

Specifications

Absolute Maximum Ratings at $T_a=25^\circ C$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-60	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-28	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu s$, duty cycle $\leq 1\%$	-112	A
Allowable Power Dissipation	PD		2.0	W
		$T_c=25^\circ C$	30	W
Channel Temperature	T_{ch}		150	$^\circ C$
Storage Temperature	T_{stg}		-55 to +150	$^\circ C$
Avalanche Energy (Single Pulse) *1	E_{AS}		343	mJ
Avalanche Current *2	I_{AV}		-28	A

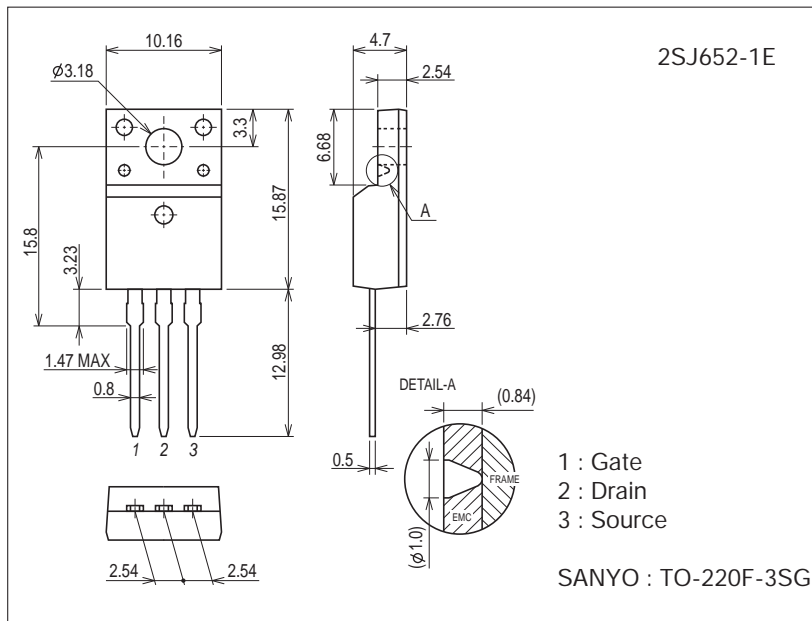
Note : *1 $V_{DD}=-30V$, $L=500\mu H$, $I_{AV}=-28A$ (Fig.1)

*2 $L \leq 500\mu H$, single pulse

Package Dimensions

unit : mm (typ)

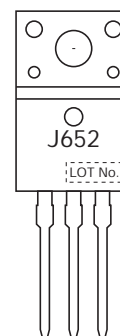
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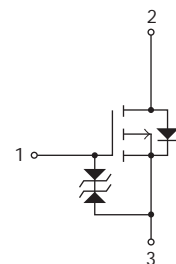
Product & Package Information

- Package : TO-220F-3SG
- JEITA, JEDEC : SC-67
- Minimum Packing Quantity : 50 pcs./magazine

Marking



Electrical Connection



2SJ652

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 =-14A	18	26		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-14A, V _{GS} =-10V		28.5	38	mΩ
	R _{DS(on)2}	I _D =-14A, V _{GS} =-4V		39	55.5	mΩ
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		4360		pF
Output Capacitance	C _{oss}			470		pF
Reverse Transfer Capacitance	C _{rss}			335		pF
Turn-ON Delay Time	t _{d(on)}			33		ns
Rise Time	t _r	See Fig.2		210		ns
Turn-OFF Delay Time	t _{d(off)}			310		ns
Fall Time	t _f			180		ns
Total Gate Charge	Q _g			80		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-30V, V _{GS} =-10V, I _D =-28A		15		nC
Gate-to-Drain "Miller" Charge	Q _{gd}			12		nC
Diode Forward Voltage	V _{SD}		I _S =-28A, V _{GS} =0V		-0.96	-1.2

Fig.1 Avalanche Resistance Test Circuit

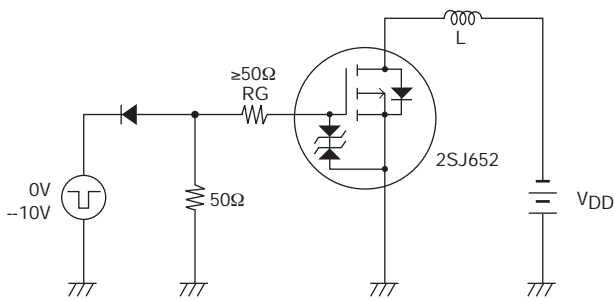
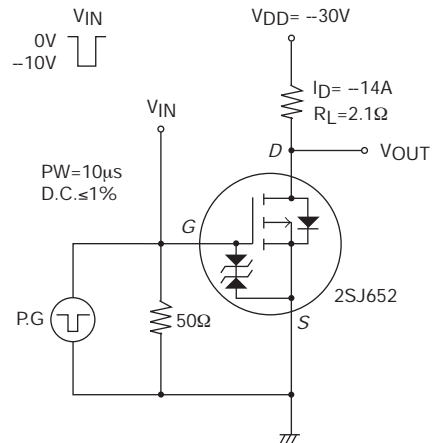
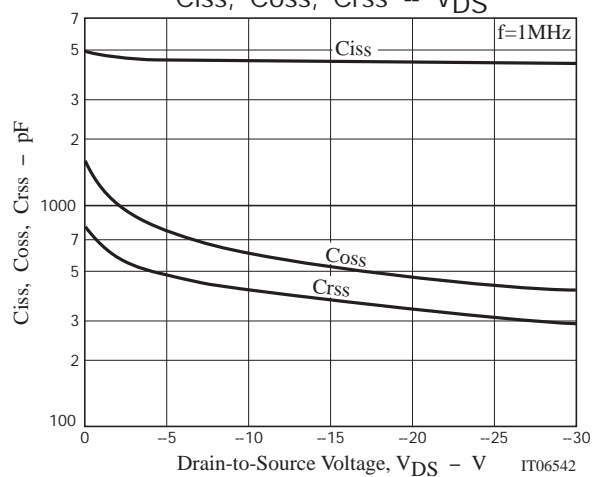
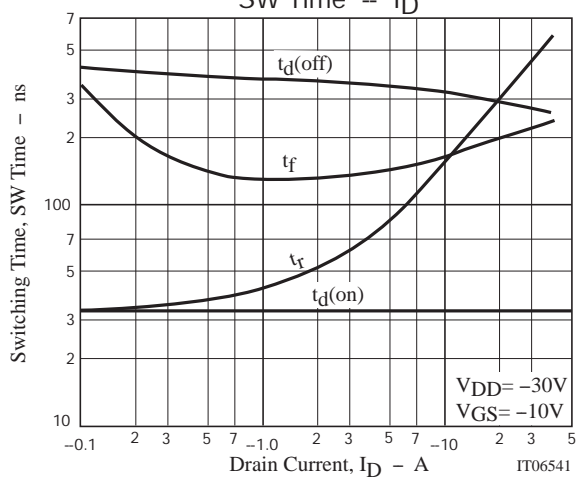
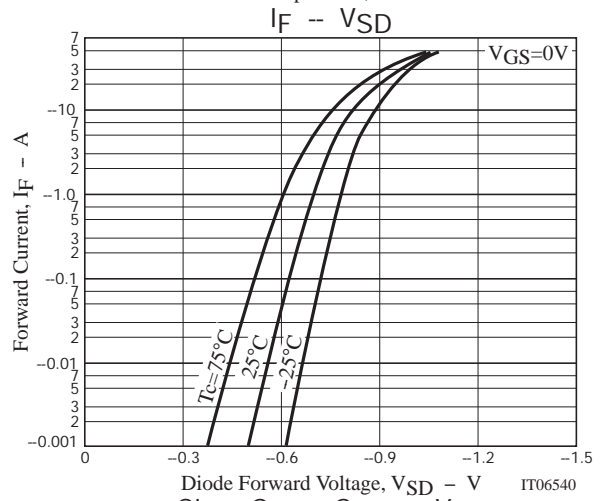
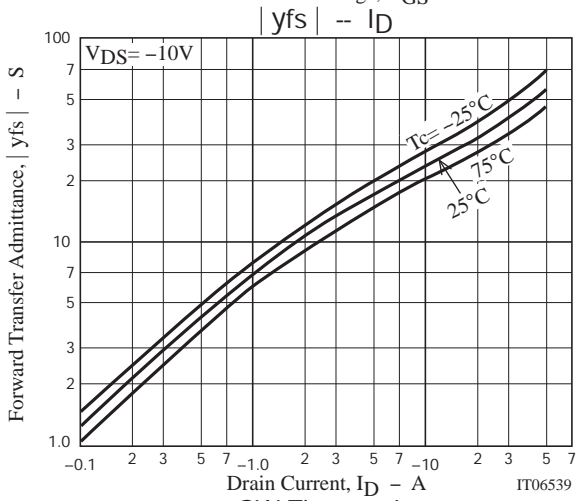
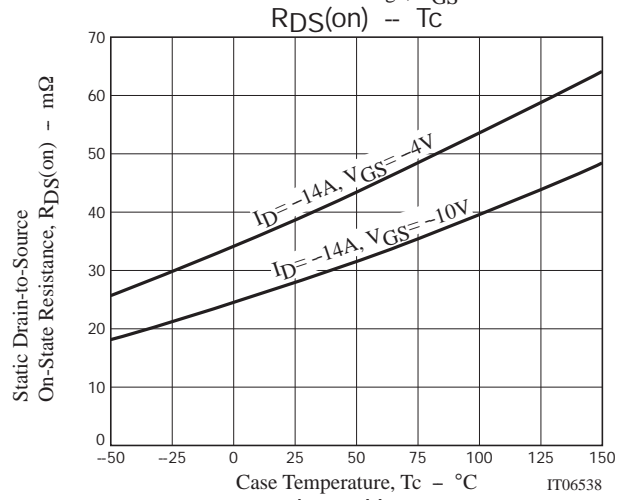
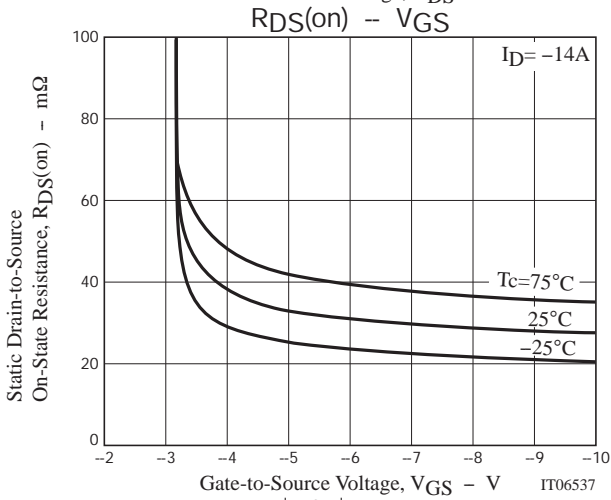
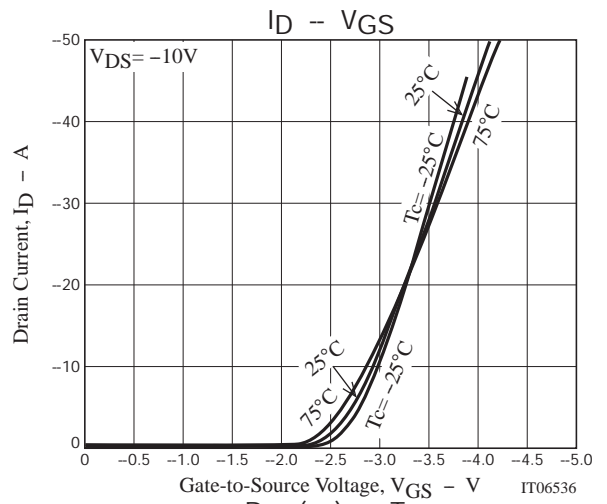
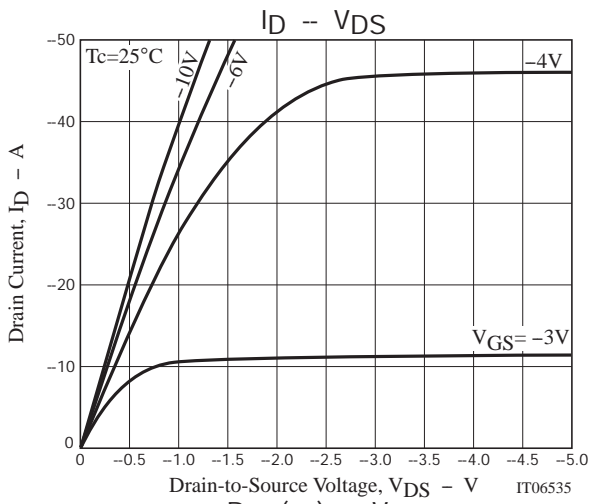


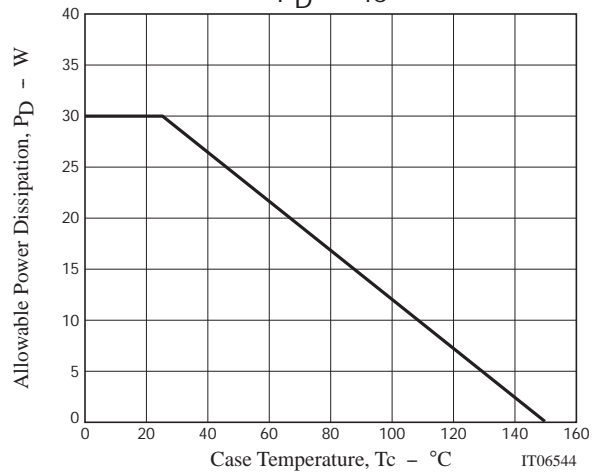
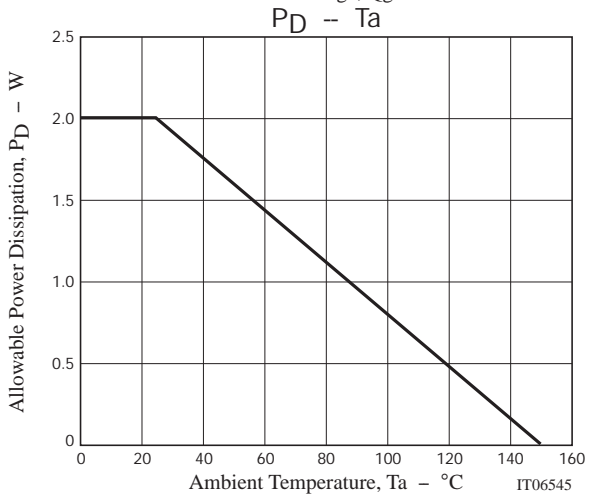
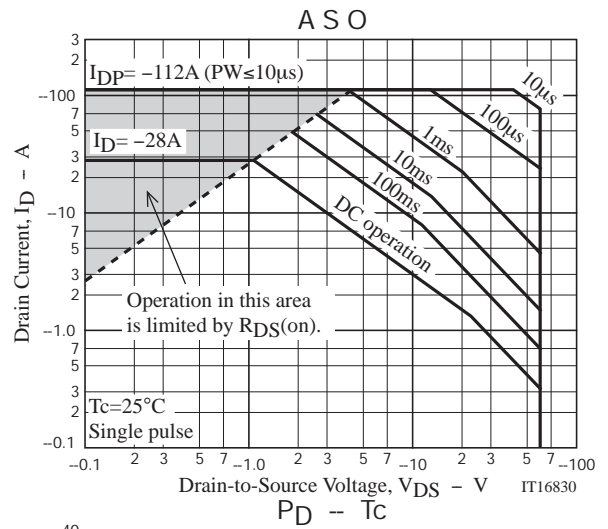
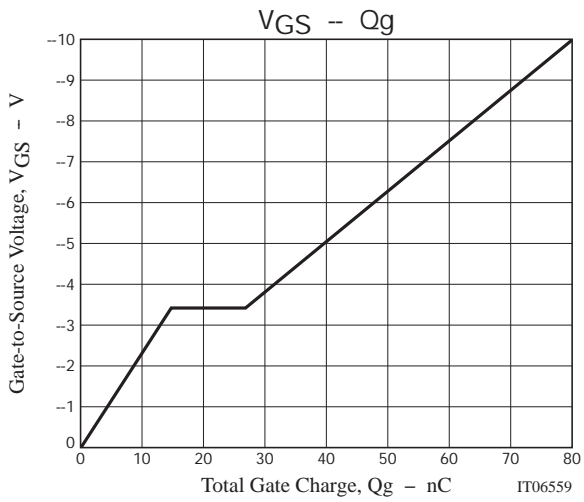
Fig.2 Switching Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
2SJ652-1E	TO-220F-3SG	50pcs./magazine	Pb Free





Magazine Specification

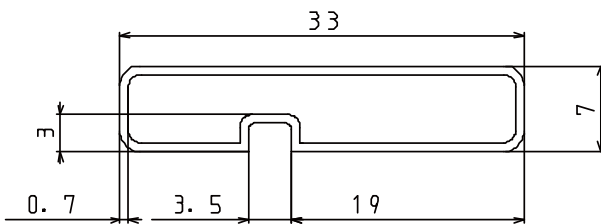
2SJ652-1E

1. Packing Format

Package Name	Magazine Name	Maximum Number of devices contained (pcs)			Packing format	
		Magazine	Inner box	Outer box	Inner BOX	Outer BOX
TO-220F-3SG	TO-220F	50	1,000	4,000	SPD-0V0001 20 magazines contained Dimensions:mm (external) 568×150×55	SPT-081029 4 inner boxes contained Dimensions:mm (external) 590×225×178

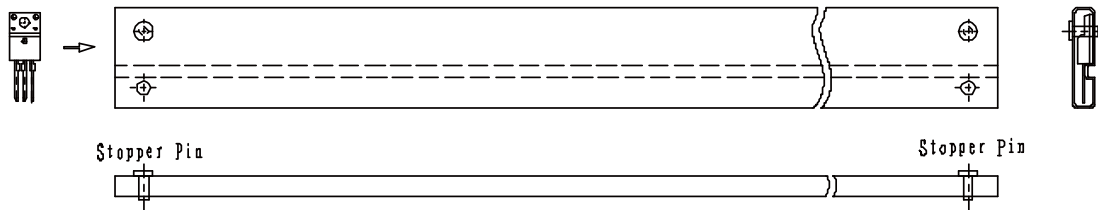
2. Magazine dimensions

(unit:mm)

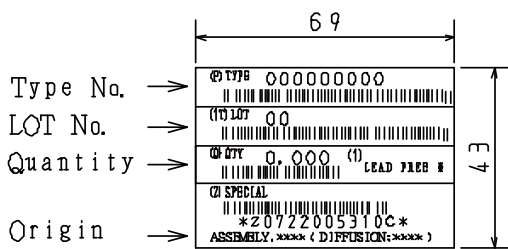


Tolerance=±0.3mm
 Thickness=0.7±0.2mm
 Length =532.5±2mm
 Material =PVC (Antistatic treatment)

3. Storage method to magazine

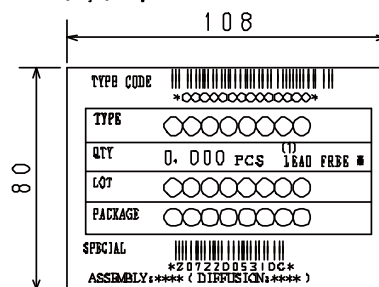


4. Inner box label (unit:mm)



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.



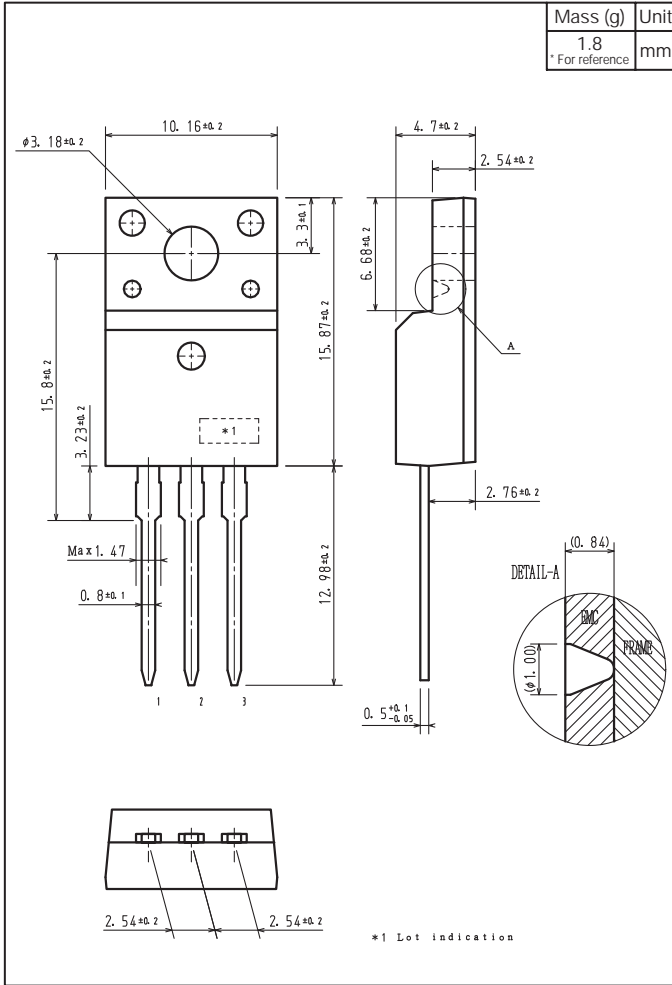
NOTE (1)

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

2SJ652-1E



Note on usage : Since the 2SJ652 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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Телефон: 8 (812) 309-75-97 (многоканальный)

Факс: 8 (812) 320-03-32

Электронная почта: ocean@oceanchips.ru

Web: <http://oceanchips.ru/>

Адрес: 198099, г. Санкт-Петербург, ул. Калинина, д. 2, корп. 4, лит. А