



SANYO Semiconductors

DATA SHEET

An ON Semiconductor Company

N-Channel Silicon MOSFET — BFL4026 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS(on)}=2.8\Omega$ (typ.)
- Input capacitance $C_{iss}=650\text{pF}$ (typ.)
- 10V drive

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		900	V
Gate-to-Source Voltage	V_{GSS}		± 30	V
Drain Current (DC)	I_{Dc}^{*1}	Limited only by maximum temperature $T_{ch}=150^\circ\text{C}$	5	A
	I_{Dpack}^{*2}	$T_c=25^\circ\text{C}$ (SANYO's ideal heat dissipation condition)*3	3.5	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	10	A
Allowable Power Dissipation	P_D		2.0	W
		$T_c=25^\circ\text{C}$ (SANYO's ideal heat dissipation condition)*3	35	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$
Avalanche Energy (Single Pulse) *4	E_{AS}		132	mJ
Avalanche Current *5	I_{AV}		5	A

Note : *1 Shows chip capability

*2 Package limited

*3 SANYO's condition is radiation from backside.

The method is applying silicone grease to the backside of the device and attaching the device to water-cooled radiator made of aluminium.

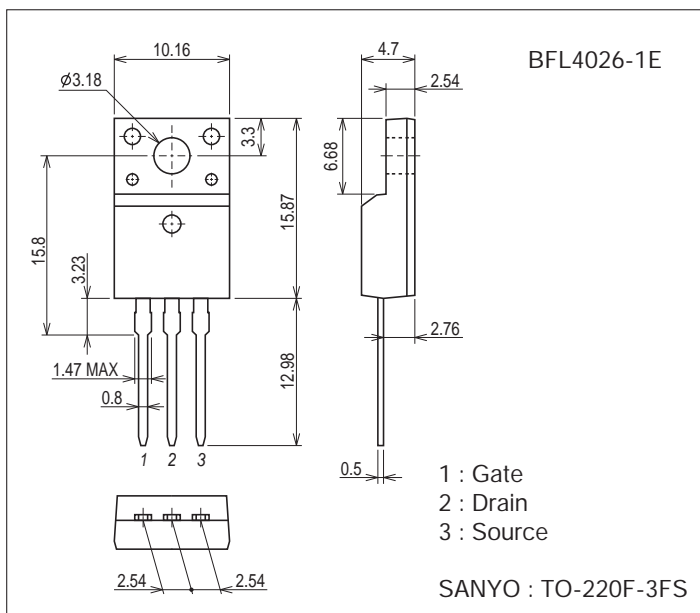
*4 $V_{DD}=50\text{V}$, $L=10\text{mH}$, $I_{AV}=5\text{A}$ (Fig.1)

*5 $L \leq 10\text{mH}$, single pulse

Package Dimensions

unit : mm (typ)

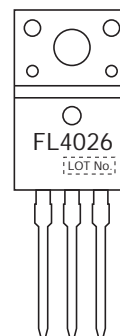
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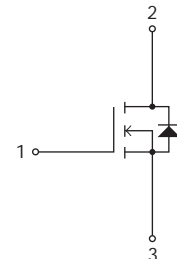
Product & Package Information

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

Marking



Electrical Connection



BFL4026

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=10mA, V_{GS}=0V$	900			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=720V, V_{GS}=0V$			1.0	mA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 30V, V_{DS}=0V$			± 100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=1mA$	2.0		4.0	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=20V, I_D=2.5A$	1.4	2.8		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=2.5A, V_{GS}=10V$		2.8	3.6	Ω
Input Capacitance	C_{iss}	$V_{DS}=30V, f=1MHz$		650		pF
Output Capacitance	C_{oss}			100		pF
Reverse Transfer Capacitance	C_{rss}			35		pF
Turn-ON Delay Time	$t_d(on)$		See Fig.2		14	
Rise Time	t_r			37		ns
Turn-OFF Delay Time	$t_d(off)$			117		ns
Fall Time	t_f			39		ns
Total Gate Charge	Q_g	$V_{DS}=200V, V_{GS}=10V, I_D=5A$			33	
Gate-to-Source Charge	Q_{gs}			5.3		nC
Gate-to-Drain "Miller" Charge	Q_{gd}			16.5		nC
Diode Forward Voltage	V_{SD}		$I_S=5A, V_{GS}=0V$		0.85	1.2
Reverse Recovery Time	t_{rr}	See Fig.3		720		ns
Reverse Recovery Charge	Q_{rr}	$I_S=5A, V_{GS}=0V, di/dt=100A/\mu s$		4700		nC

Fig.1 Avalanche Resistance Test Circuit

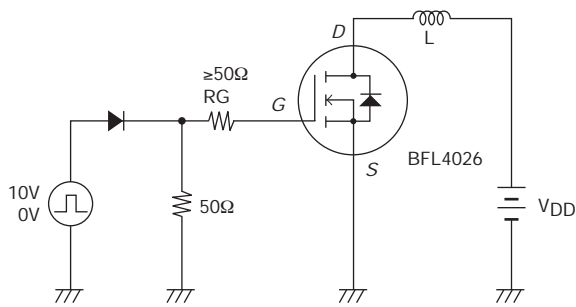


Fig.2 Switching Time Test Circuit

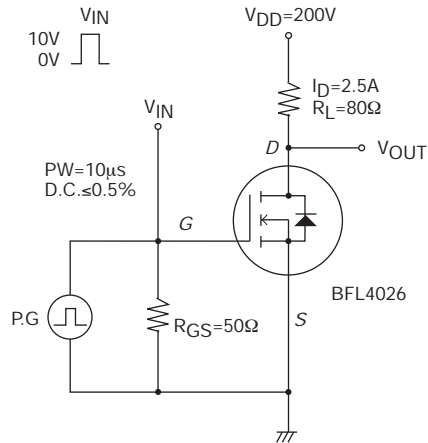
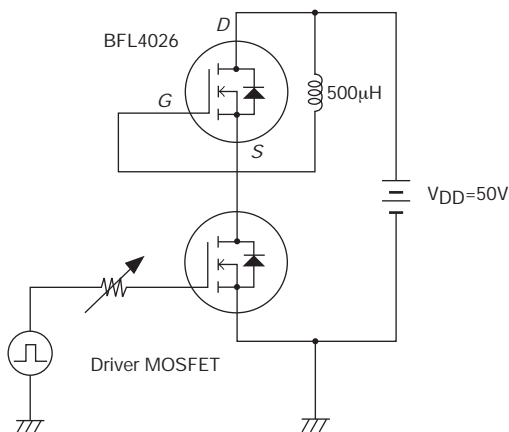
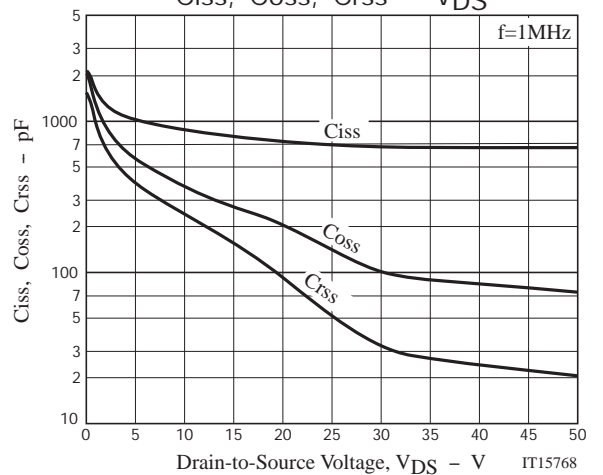
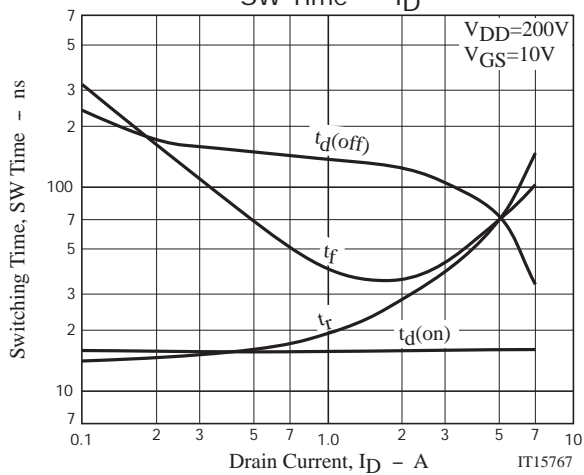
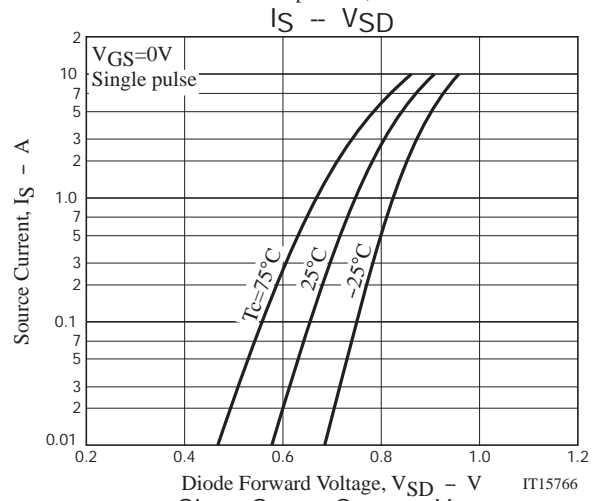
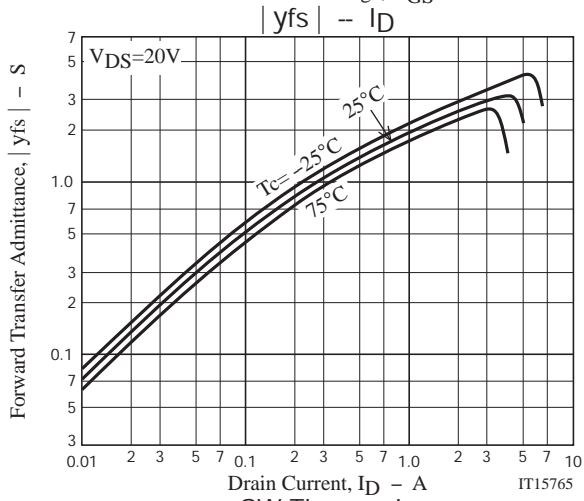
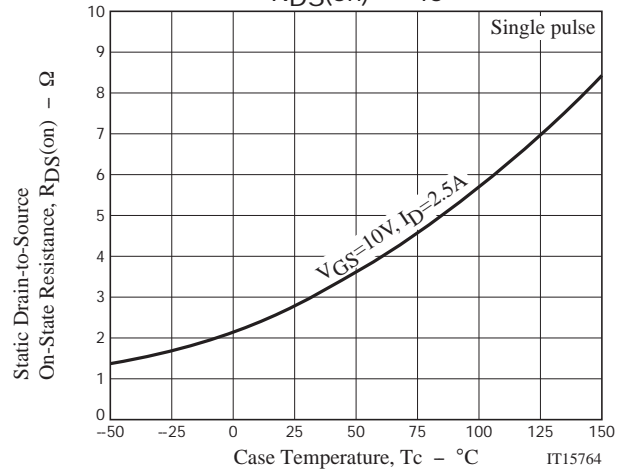
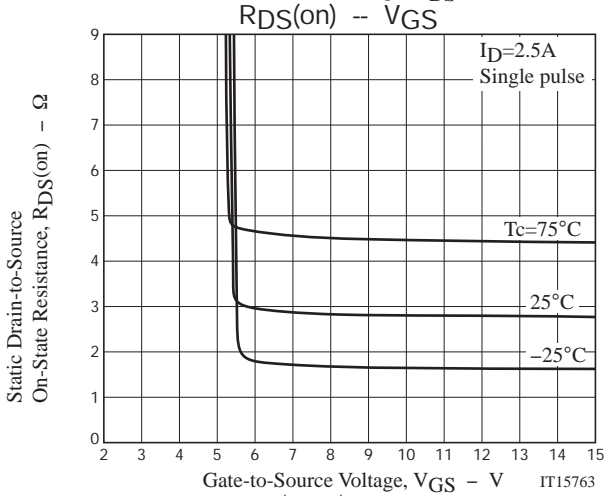
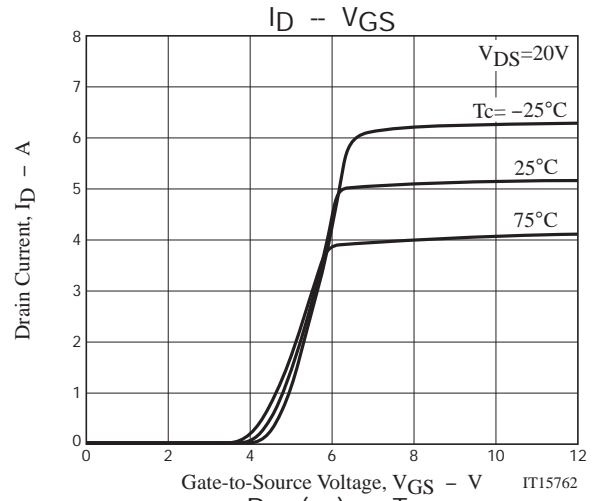
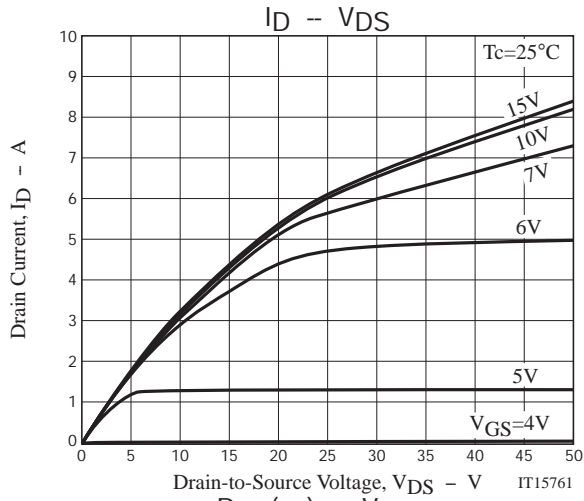


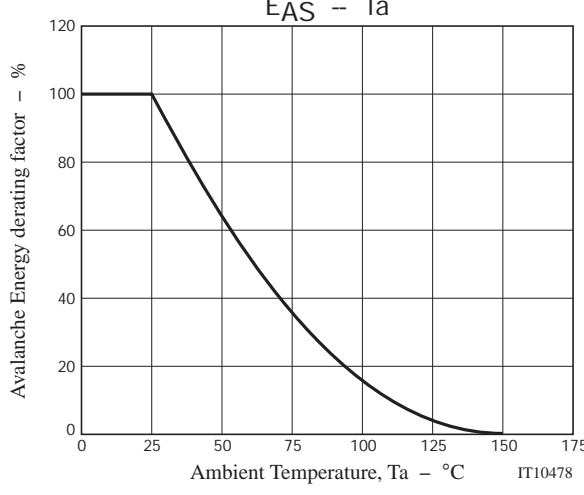
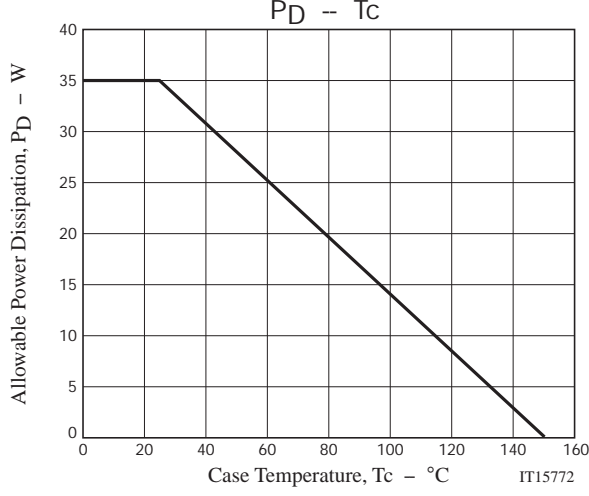
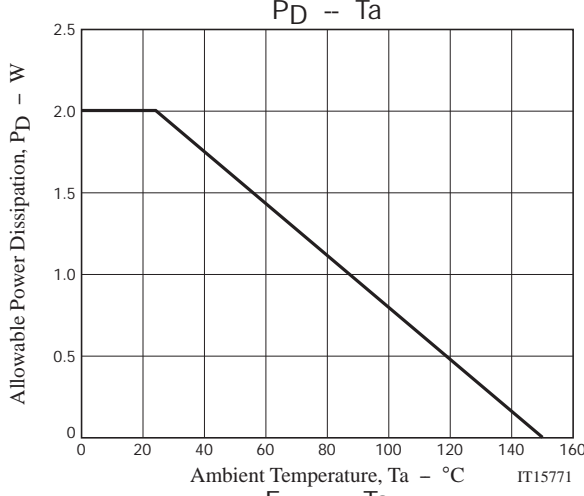
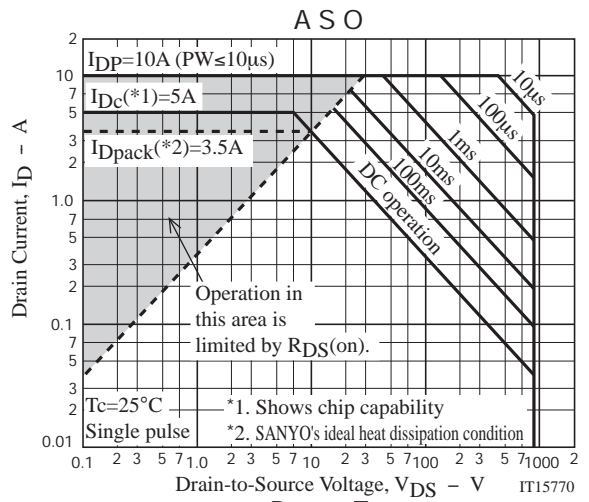
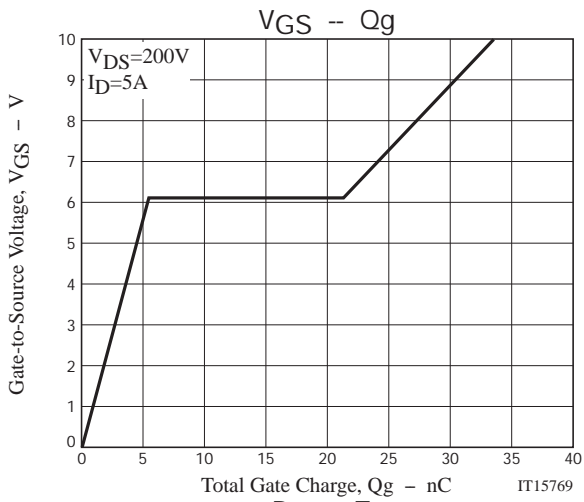
Fig.3 Reverse Recovery Time Test Circuit



Ordering Information

Device	Package	Shipping	memo
BFL4026-1E	TO-220F-3FS	50pcs./magazine	Pb Free





Magazine Specification

BFL4026-1E

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-3FS	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

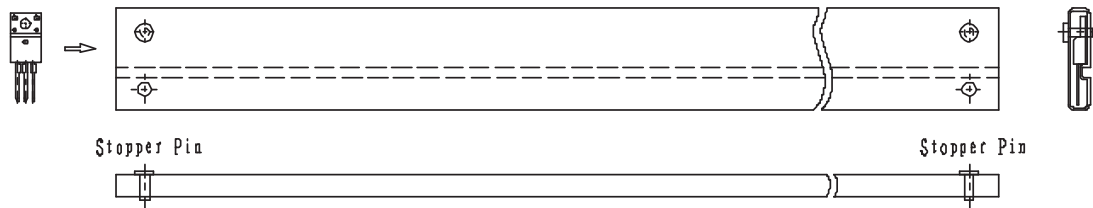
2. Magazine dimensions

(unit:mm)

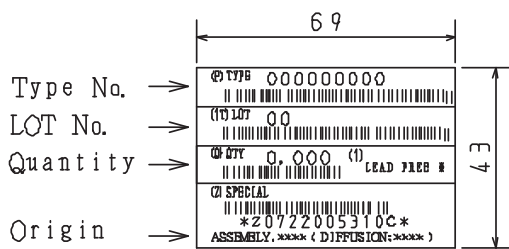


Tolerance=±0.3mm
 Thickness=0.7±0.2mm
 Length =532.5±2mm
 Material =PVC (Antistatic treatment)

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)

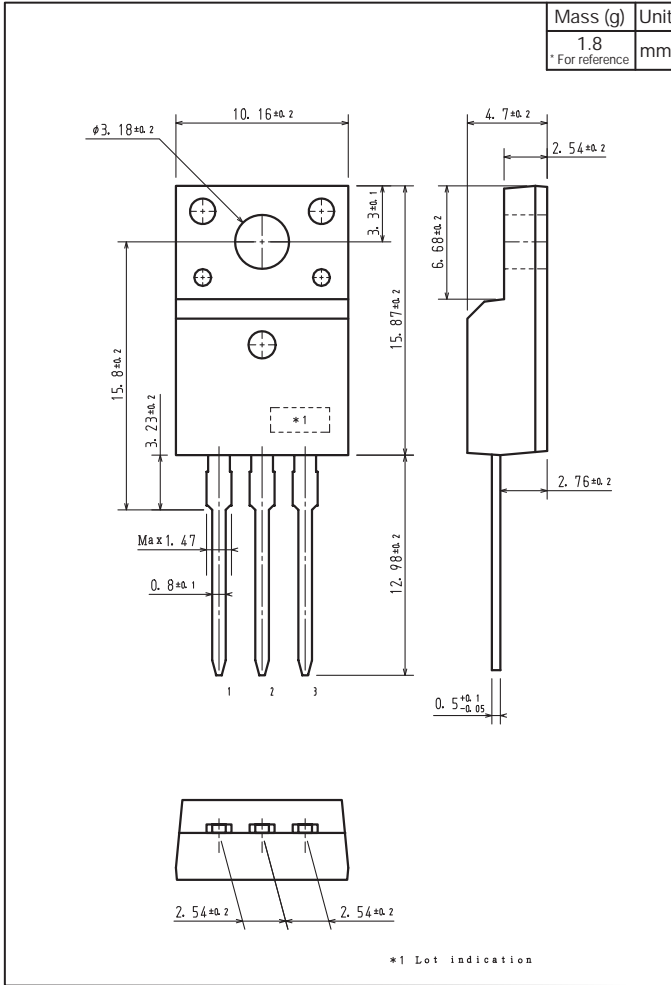
The LEAD FREE * description shows that the surface treatment of the terminal is lead free.

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

BFL4026

Outline Drawing

BFL4026-1E



Note on usage : Since the BFL4026 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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