



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	$V_{GSS}$		$\pm 30$	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.

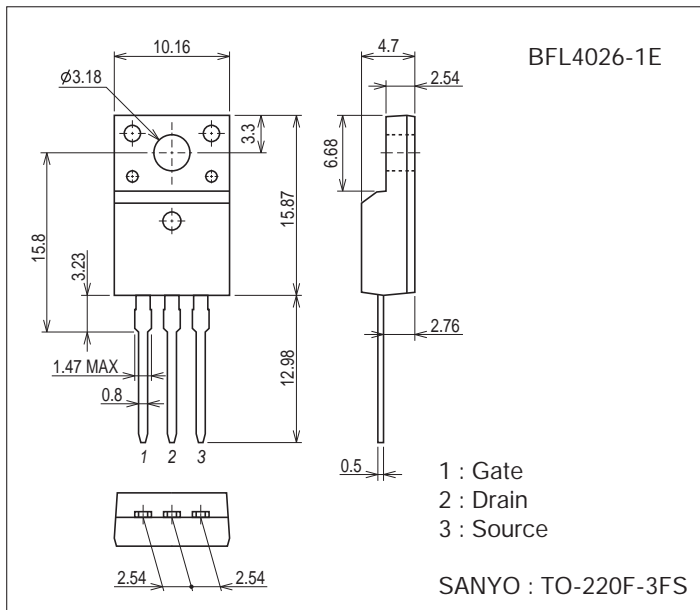
\*4  $V_{DD}=50\text{V}$ ,  $L=10\text{mH}$ ,  $I_{AV}=5\text{A}$  (Fig.1)

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

### Package Dimensions

unit : mm (typ)

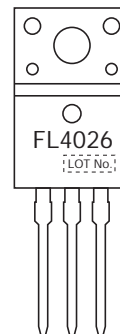
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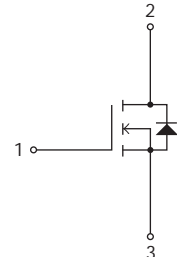
### Product & Package Information

- 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	$I_{GSS}$	$V_{GS}=\pm 30V, V_{DS}=0V$			$\pm 100$	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	$\Omega$
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

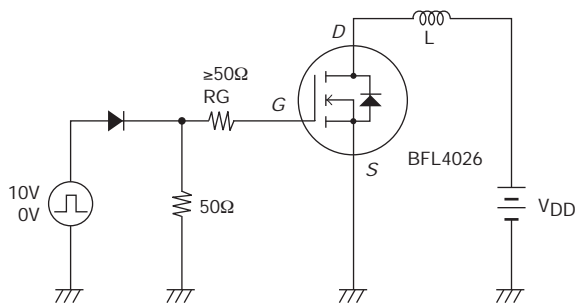


Fig.2 Switching Time Test Circuit

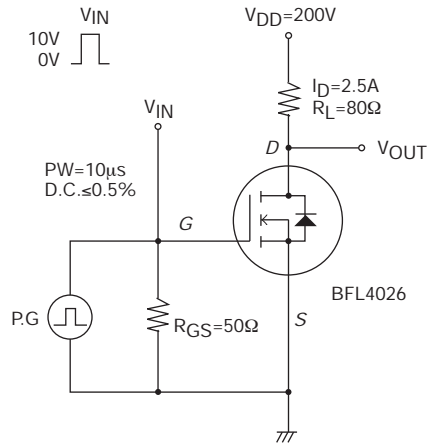
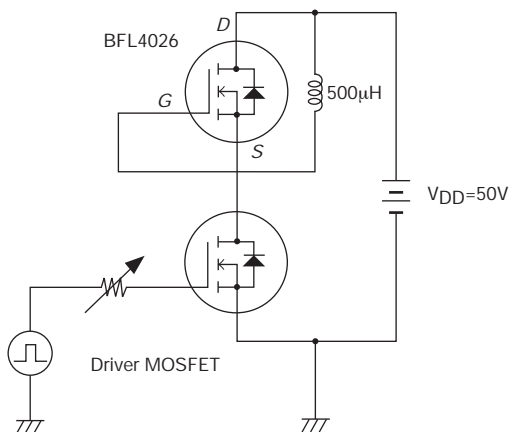
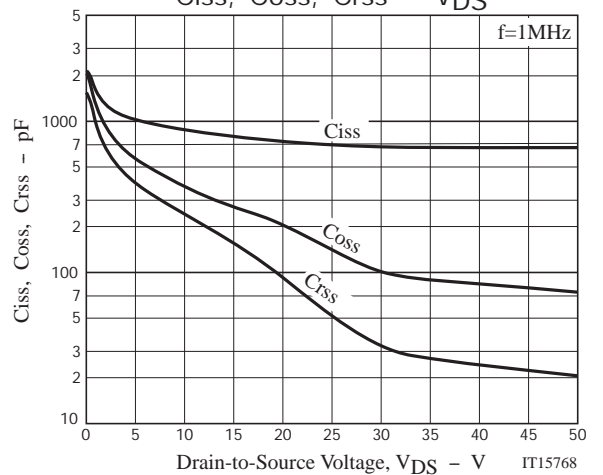
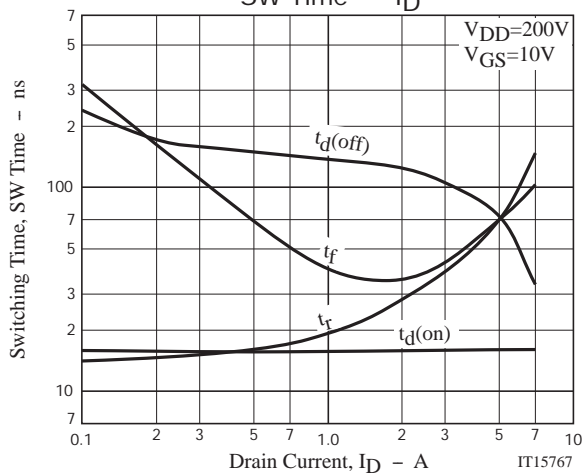
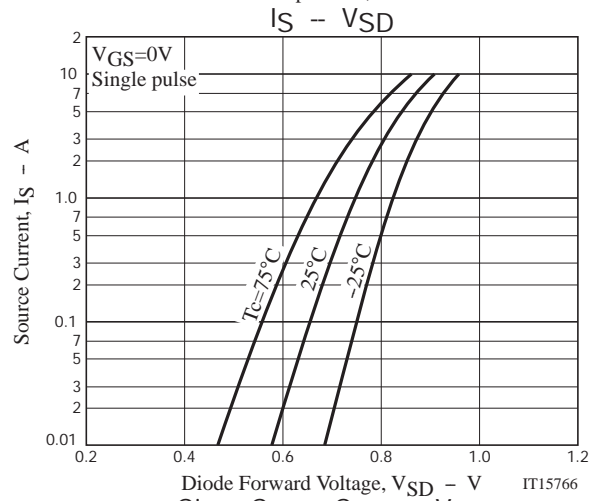
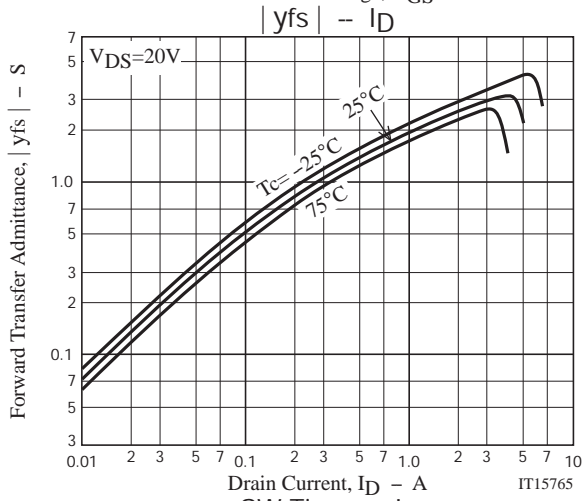
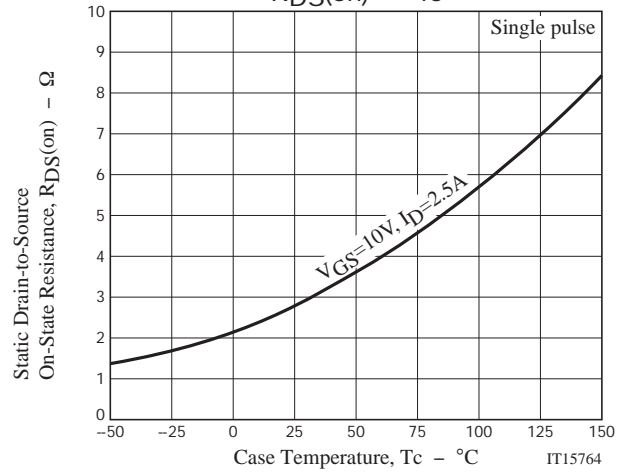
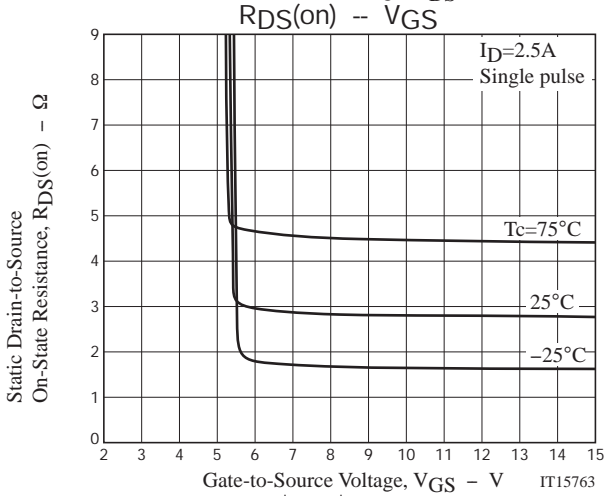
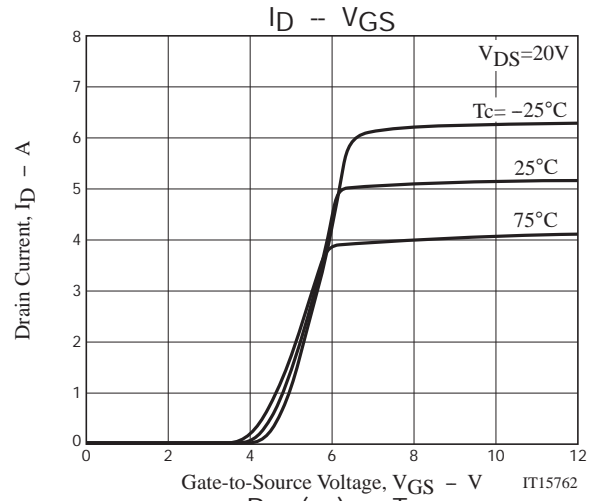
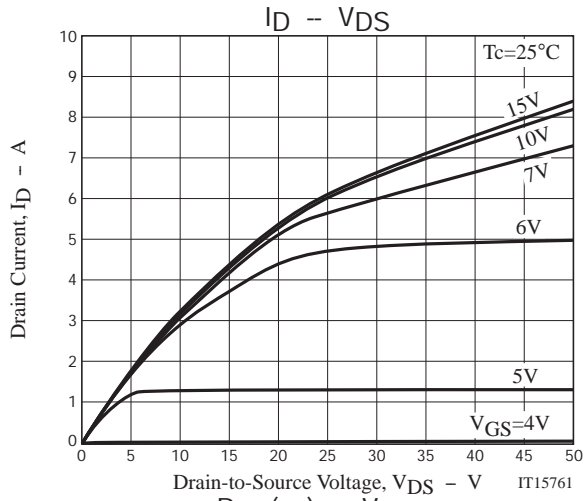


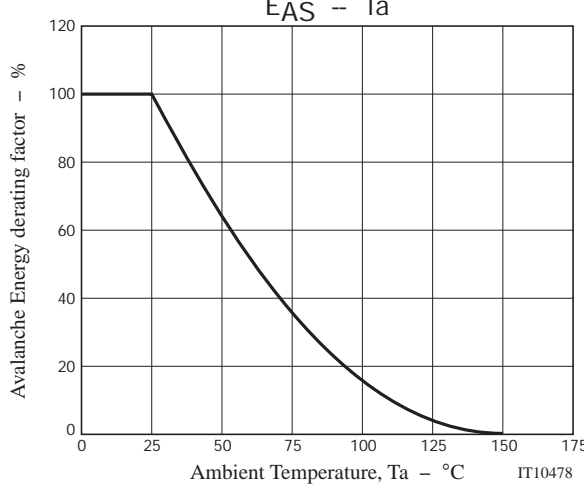
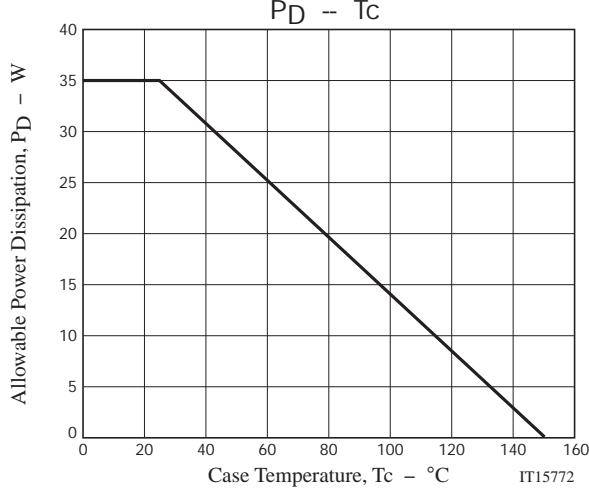
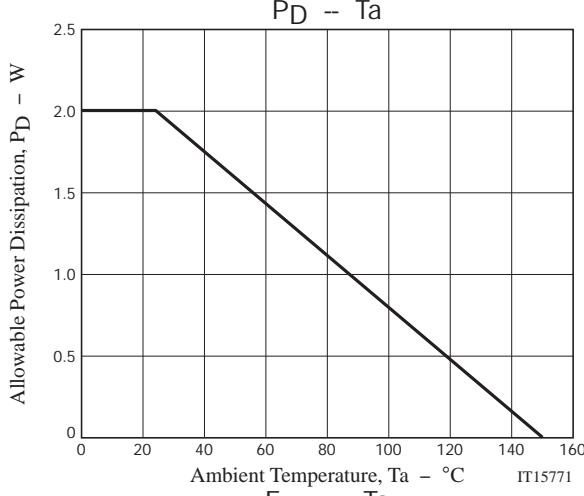
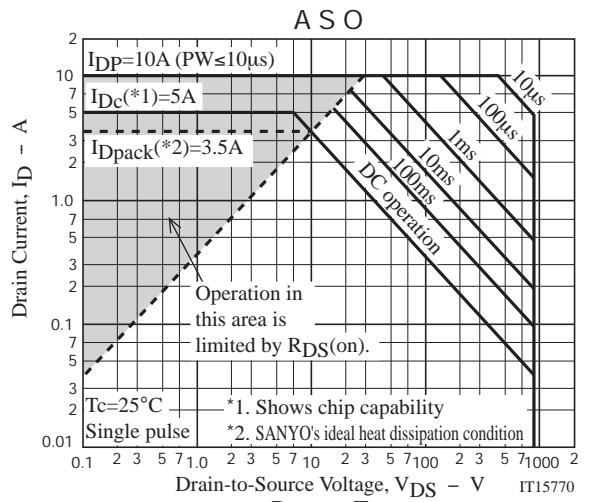
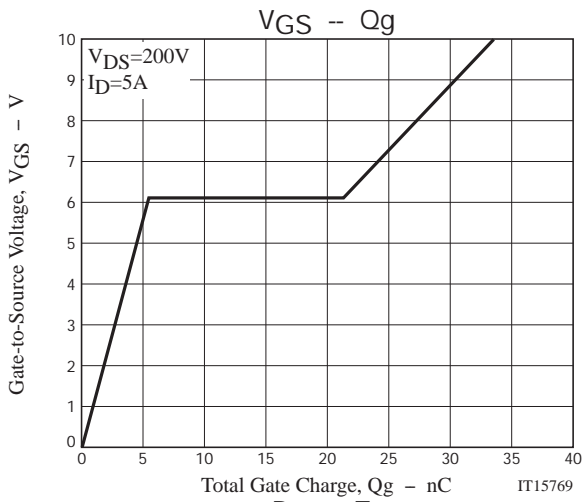
Fig.3 Reverse Recovery Time Test Circuit



## Ordering Information

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





Magazine Specification

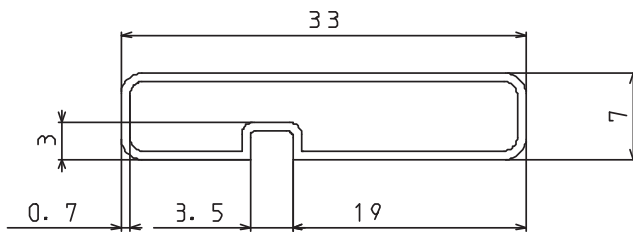
BFL4026-1E

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

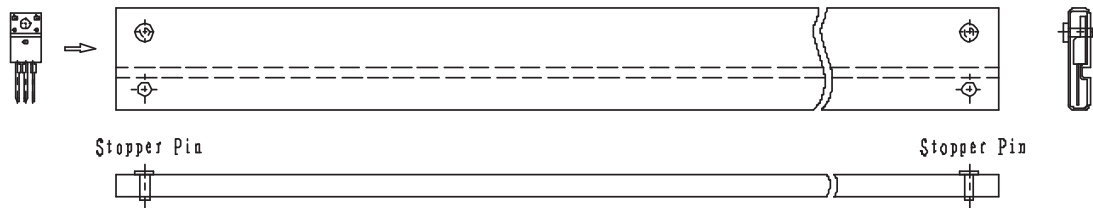
2. Magazine dimensions

(unit:mm)

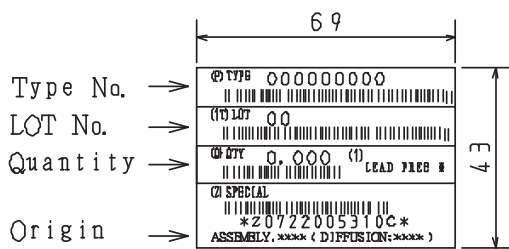


Tolerance=±0.3mm  
 Thickness=0.7±0.2mm  
 Length =532.5±2mm  
 Material =PVC (Antistatic treatment)

3. Storage method to magazine

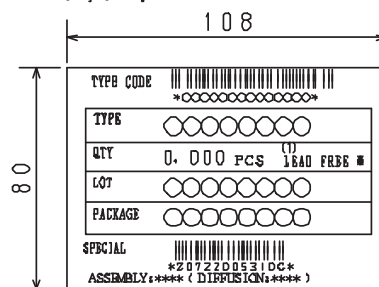


4. Inner box label (unit:mm)



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.



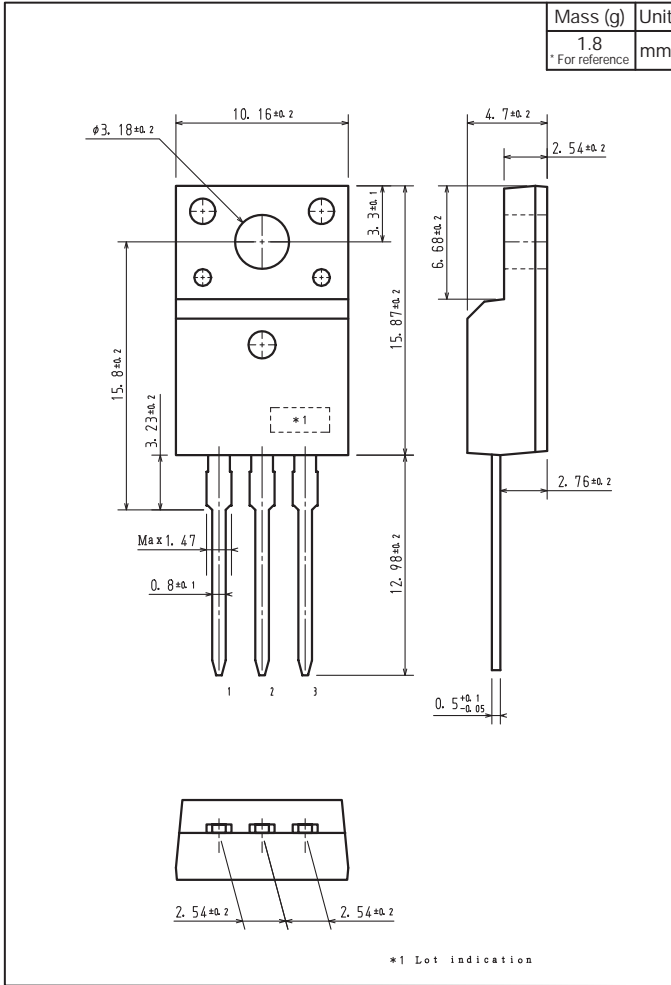
NOTE (1)

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

Label	JEITA Phase
LEAD FREE 3	JEITA Phase 3A

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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