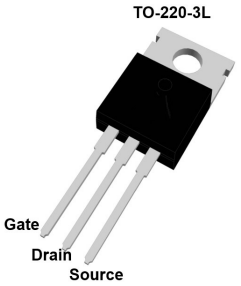
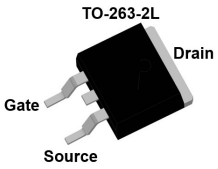
30V N-ch Power MOSFET

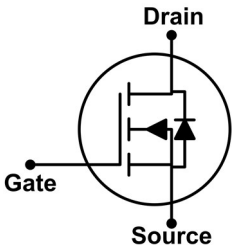
General Features

- Proprietary New Trench Technology
- $R_{DS(ON),typ.}$=4.0mΩ@V_{GS}=10V
- Low Gate Charge Minimize Switching Loss
- Fast Recovery Body Diode

BV_{DSS}	$R_{DS(ON),max.}$	I_D[2]
30V	5.2mΩ	104A







Applications

- High efficiency DC/DC Converters
- Synchronous Rectification
- UPS Inverter

Ordering Information

Part Number	Package	Marking
FTP30N5P2L	TO-220-3L	30N5P2L
FTB30N5P2L	TO-263-2L	30N5P2L

Absolute Maximum Ratings

T_C=25℃ unless otherwise specified

Symbol	Parameter	Value	Unit
V_{DSS}	Drain-to-Source Voltage[1]	30	V
V_{GSS}	Gate-to-Source Voltage	±20	
I_D	Continuous Drain Current[2]	104	A
	Continuous Drain Current[3]	48	
	Continuous Drain Current at T_C=100℃[2]	74	
I_{DM}	Pulsed Drain Current at V_{GS}=10V[2,4]	418	
P_D	Power Dissipation	101	W
	Derating Factor above 25℃	0.67	W/℃
T_L	Soldering Temperature Distance of 1.6mm from case for 10 seconds	300	℃
T_J & T_{STG}	Operating and Storage Temperature Range	-55 to 175	

Caution: Stresses greater than those listed in the "Absolute Maximum Ratings" may cause permanent damage to the device.

Thermal Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Unit
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case			1.5	℃/W
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient			63	

Electrical Characteristics

OFF Characteristics

T_J=25℃ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
BV_{DSS}	Drain-to-Source Breakdown Voltage	30			V	V_{GS}=0V, I_D=250uA
I_{DSS}	Drain-to-Source Leakage Current			1	uA	V_{DS}=24V, V_{GS}=0V
I_{GSS}	Gate-to-Source Leakage Current			±100	nA	V_{GS}=±20V, V_{DS}=0V

ON Characteristics

T_J=25℃ unless otherwise specified

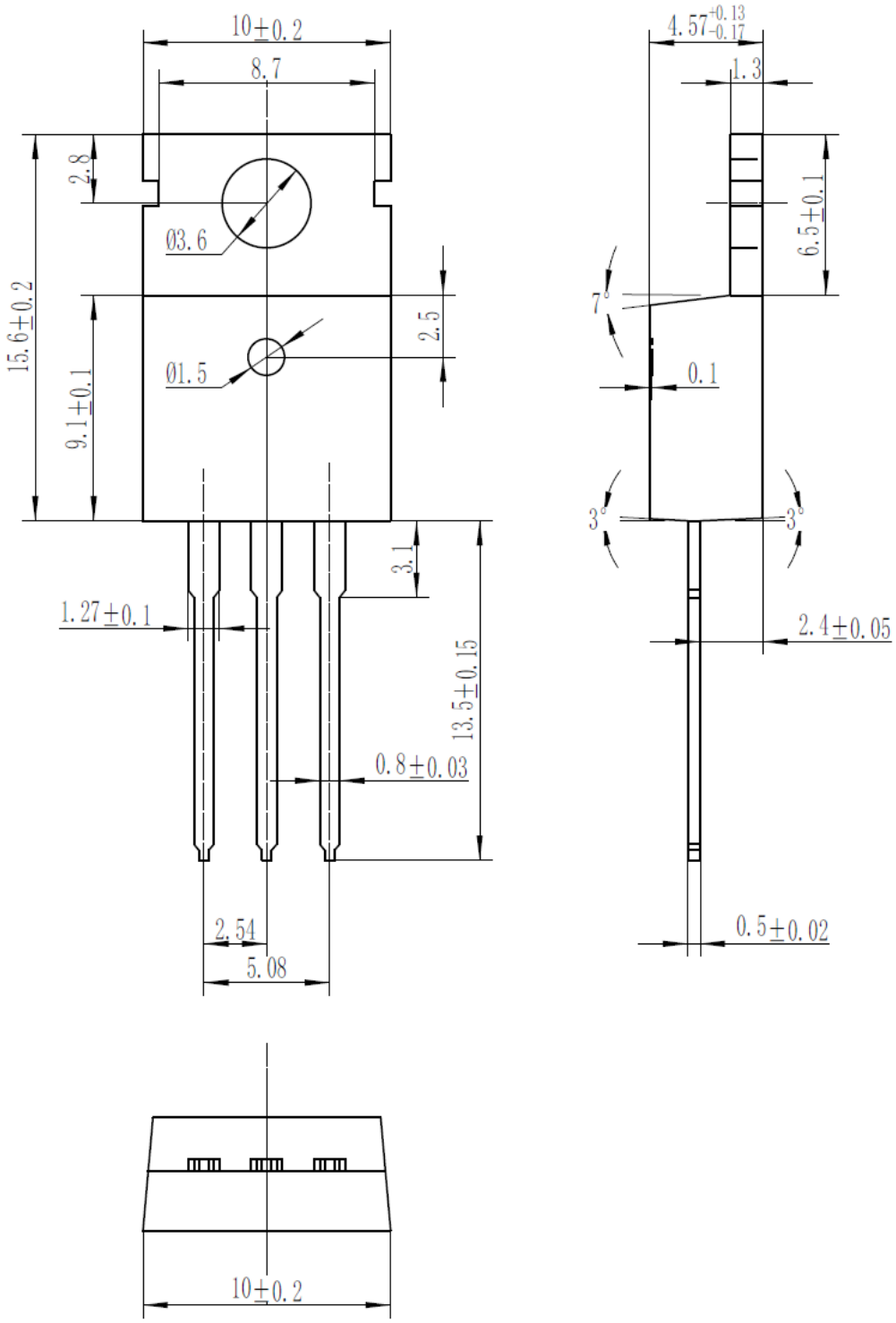
Symbol	Parameter	Min.	Typ.	Max.	Unit	Test Conditions
$R_{DS(ON)}$	Static Drain-to-Source On-Resistance	--	4.0	5.2	mΩ	V_{GS}=10V, I_D=80A[5]
		--	5.3	7.4	mΩ	V_{GS}=4.5V, I_D=52A[5]
$V_{GS(TH)}$	Gate Threshold Voltage	1.0	--	3.0	V	V_{DS}=V_{GS}, I_D=250uA

Note:

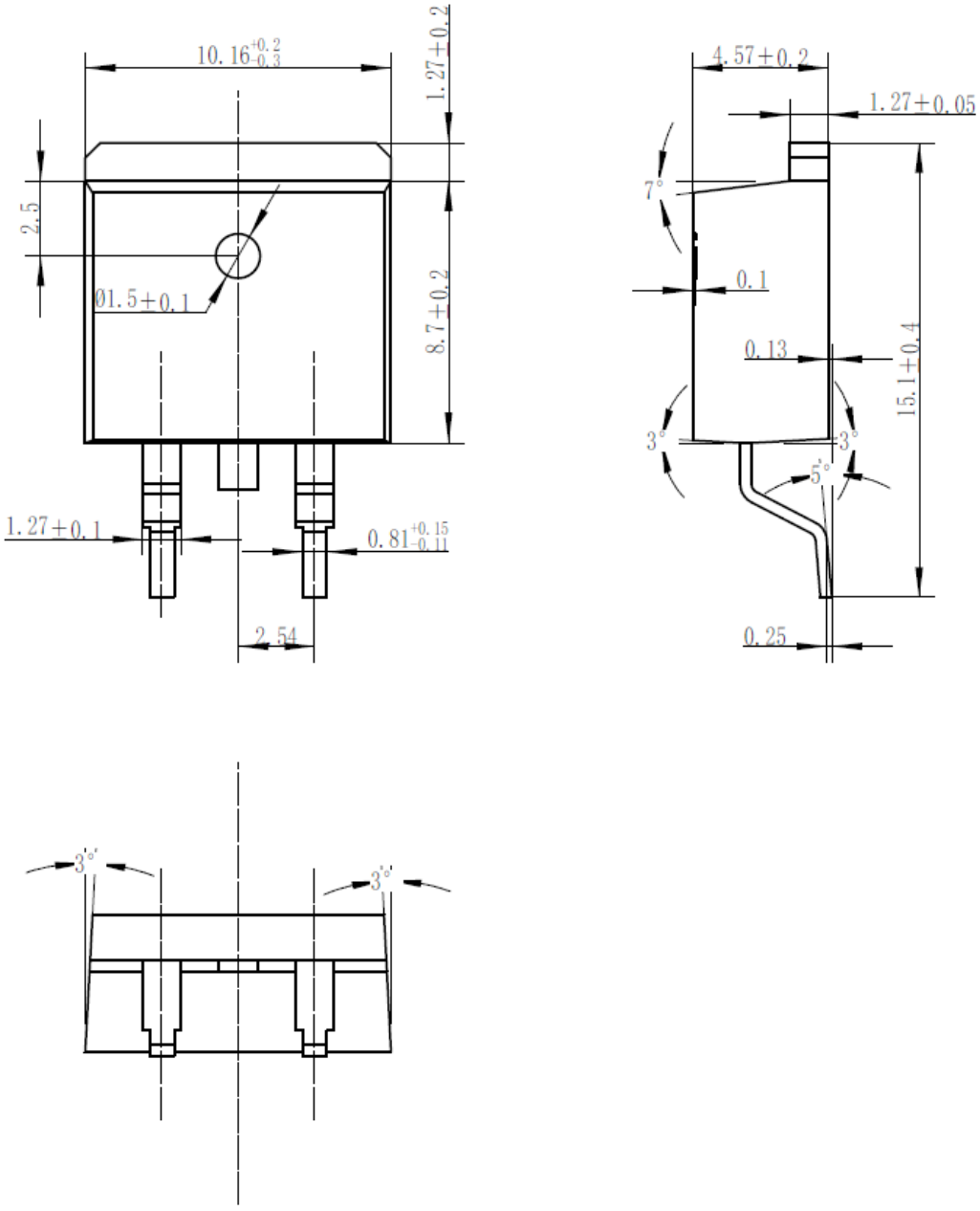
[1] T_J=25℃ to 175℃
[2] Silicon limited current only
[3] Package limited current
[4] Repetitive rating, pulse width limited by maximum junction temperature.
[5] Pulse width≤380μs; duty cycle≤2%.

Package Dimensions

TO-220-3L



TO-263-2L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1.27±0.2
2.5
Ø1.5±0.1
8.7±0.2
1.27±0.1
0.81+0.15 -0.11
2.54
4.57±0.2
1.27±0.05
7°
0.1
0.13
15.1±0.4
3°
3°
5°
0.25
3°
3°

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   b. support or sustain life,
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