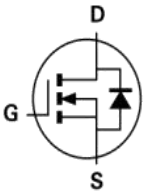
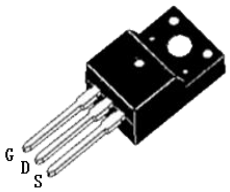
SL8N65

N-Channel Enhancement Mode Power MOSFET

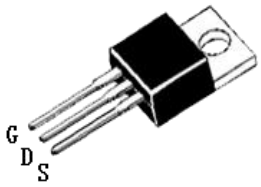
MAIN CHARACTERISTICS

I_D	8A
V_{DSS}	650V
R_{DSON}-typ （@V_{GS}=10V）	1.1Ω





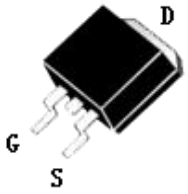
TO-220F/SL8N65F



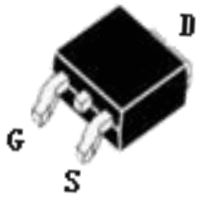
TO-220AB/SL8N65

FEATURES

- Fast Switching
- Low ON Resistance
- Low Gate Charge
- 100% Single Pulse avalanche energy Test



TO-263/SL8N65K



TO-252/SL8N65D

APPLICATIONS

- Power switch circuit of adaptor and charger.

MECHANICAL DATA

- Case: Molded plastic
- Mounting Position: Any
- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275℃ maximum,10s per JESD 22-B106

TO-251/SL8N65I

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value			Unit
		220AB/263	220F	251/252	
Drain-Source Voltage	V_{DS}	650			V
Gate-Source Voltage	V_{GS}	±30			V
Continue Drain Current	I_D	8			A
Pulsed Drain Current (Note1)	I_{DM}	28			A
Power Dissipation	P_D	100	30	100	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	350			mJ
Operating Temperature Range	T_J	150			°C
Storage Temperature Range	T_{STG}	-55 to +150			°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.25	3.57	1.25	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62.5	62.5	100	°C/W

Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

Electrical Characteristics at Tc=25°C unless otherwise specified

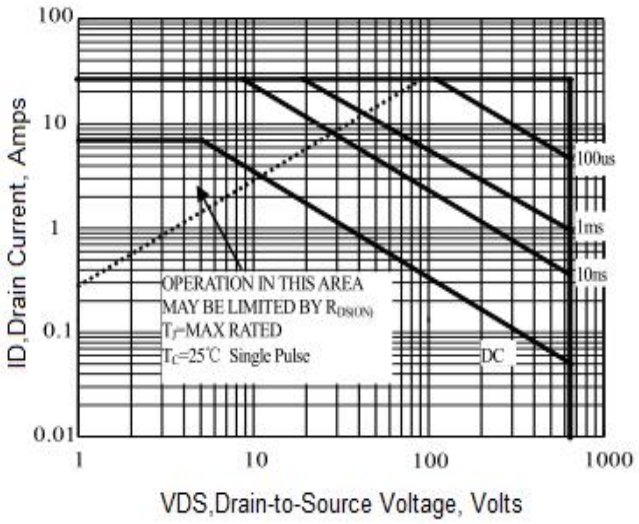
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{GS} = 0 V,I_D = 250 μA	BV_{DSS}	655	-	-	V
Drain-Source Leakage Current	V_{DS} = 655 V, V_{GS} = 0 V	I_{DSS}	-	-	1	μA
Gate Leakage Current	V_{GS} = ± 30 V, V_{DS} = 0 V	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	V_{DS} = V_{GS} , I_D = 250 μA	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance	V_{GS} = 10 V, I_D = 3.5 A	$R_{DS(on)}$	-	1.1	1.25	Ω
Forward Transconductance	V_{DS} = 15 V, I_D = 3.5 A	gfs	-	6.5	-	S
Input Capacitance	V_{GS} = 0 V, V_{DS} = 25 V, f = 1 MHz	C_{iss}	-	981	-	pF
Output Capacitance		C_{oss}	-	85	-	pF
Reverse Transfer Capacitance		C_{rss}	-	4	-	pF
Turn-on Delay Time(Note2)	I_D = 7 A, V_{DD} = 325 V, R_G= 10Ω	$t_{d(ON)}$	-	18	-	ns
Rise Time(Note2)		t_r	-	19	-	ns
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	39	-	ns
Fall Time(Note2)		t_f	-	18	-	ns
Total Gate Charge(Note2)	I_D = 7 A, V_{DD} = 520 V, V_{GS} = 10 V	Q_G	-	18	-	nC
Gate to Source Charge(Note2)		Q_{GS}	-	4.3	-	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	7.6	-	nC

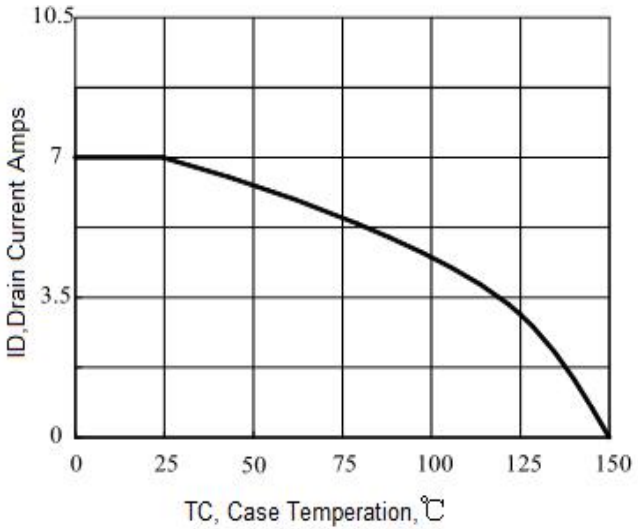
Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified

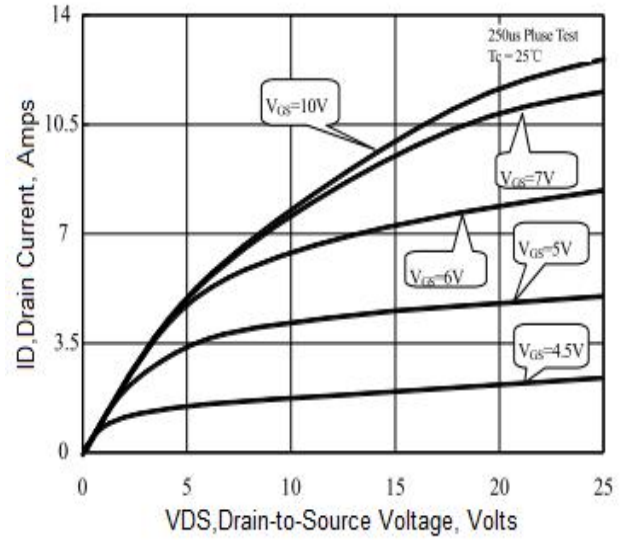
Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current	Tj=25°C	I_S	-	-	8	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	28	A
Drain-Source Diode Forward Voltage	I_{SD} = 7 A	V_{SD}	-	-	1.4	V
Reverse Recovery Time(Note2)	I_{SD} = 7 A, V_{GS} = 0 V, dI_F / dt = 100 A/μs	trr	-	370	-	ns
Reverse Recovery Charge(Note2)		Qrr	-	1.9	-	μC

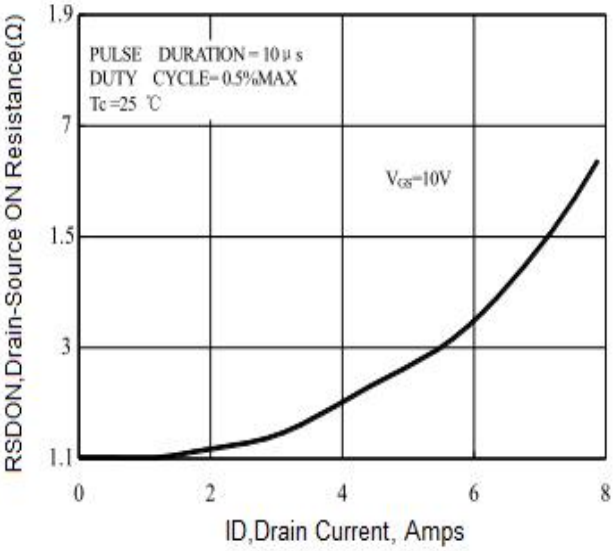
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

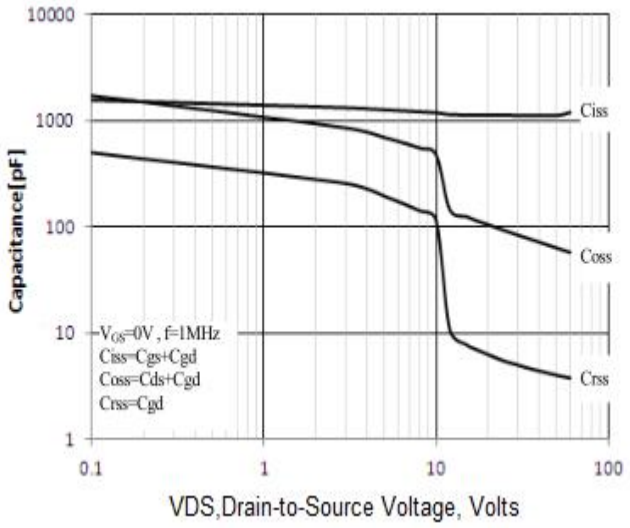
RATINGS AND CHARACTERISTIC CURVES

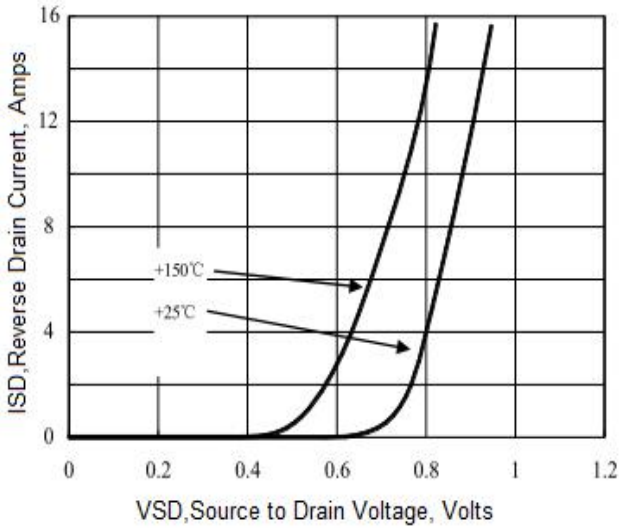






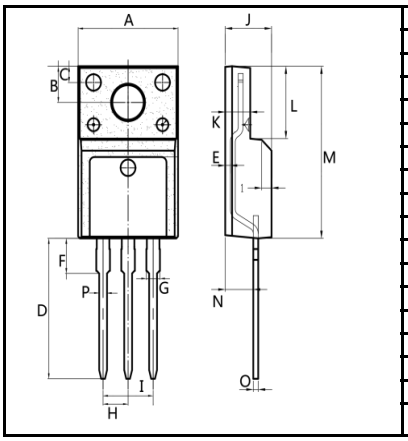






Package Outline Dimensions millimeters

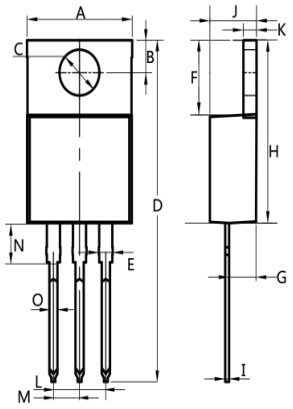
TO-220F



Dim.	Min.	Max.
A	9.9	10.3
B	2.9	3.5
C	1.15	1.45
D	12.75	13.25
E	0.55	0.75
F	3.1	3.5
G	1.25	1.45
H	Typ 2.54	
I	Typ 5.08	
J	4.55	4.75
K	2.4	2.7
L	6.35	6.75
M	15	16
N	2.75	3.15
O	0.45	0.6
P	0.7	0.9

All Dimensions in millimeter

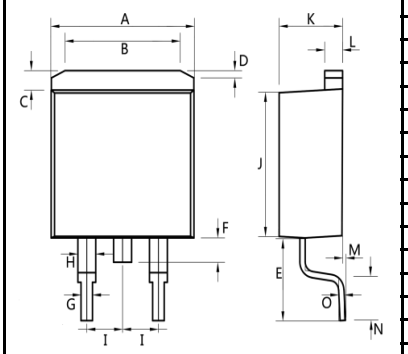
TO-220AB



Dim.	Min.	Max.
A	10.15	10.35
B	2.65	2.95
C	3.7	3.9
D	28.5	29.5
E	1.3	1.45
F	6.35	6.55
G	2.9	3.3
H	15	16
I	0.38	0.42
J	4.45	4.55
K	1.25	1.35
L	Typ5.08	
M	Typ2.54	
N	3.1	3.3
O	0.76	0.84

All Dimensions in millimeter

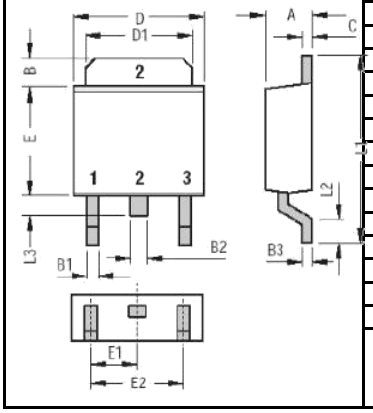
TO-263



Dim.	Min.	Max.
A	10.1	10.2
B	7.4	7.6
C	1.3	1.5
D	0.55	0.75
E	5	6
F	1.4	1.6
G	0.78	0.86
H	1.2	1.3
I	Typ2.54	
J	8.4	8.6
K	4.45	4.55
L	1.25	1.35
M	0.02	0.1
N	2.4	2.8
O	0.36	0.4

All Dimensions in millimeter

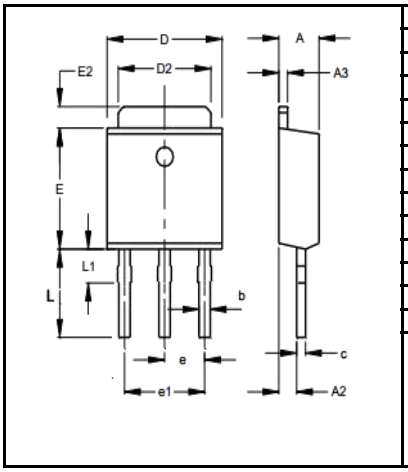
TO-252



Dim.	Min.	Max.
A	2.1	2.5
B	1.3	1.7
C	0.4	0.6
D	6.4	6.7
D1	5.1	5.5
E	5.5	6
E1	Typ2.3	
E2	Typ4.6	
B1	0.6	0.8
B2	0.75	0.95
B3	0.35	0.45
L1	9	10
L2	1.4	1.6
L3	1	1

All Dimensions in millimeter

TO-251



Dim.	Min.	Max.
A	2.2	2.4
A2	0.95	1.15
A3	0.45	0.65
b	0.65	0.85
c	0.45	0.55
D	6.45	6.75
D2	5.2	5.4
E	5.8	6
E2	0.95	1.25
e	Typ2.3	
e1	Typ4.6	
L	4	4.2
L1	1.2	1.5

All Dimensions in millimeter