

MAIN CHARACTERISTICS

I_D	10A
V_{DSS}	800V
$R_{DS(on)-Typ@}$ $V_{GS}=10V$	0.74Ω

FEATURES

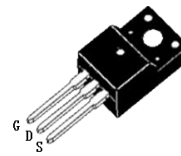
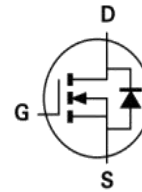
- Fast Switching
- Low ON Resistance
- Low Gate Charge
- 100% Single Pulse avalanche energy Test

APPLICATIONS

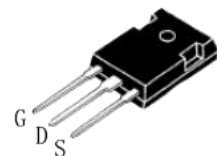
- Power switch circuit of adaptor and charger.

MECHANICAL DATA

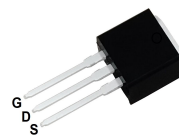
- Case: Molded plastic
- Mounting Position: Any
- Molded Plastic: UL Flammability Classification Rating 94V-0
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Solder bath temperature 275°C maximum, 10s per JESD 22-B106



TO-220F



TO-247



TO-262C

Product specification classification

Part Number	Package	Mode Name	Pack
CS10N80A8	TO-220F (1.3mm)	CS10N80A	Tube
CS10N80A6	TO-247	CS10N80A	Tube
CS10N80AI	TO-262C	CS10N80A	Tube

Maximum Ratings at $T_c=25^{\circ}\text{C}$ unless otherwise specified

Characteristics	Symbol	Value			Unit
		262C	220F	247	
Drain-Source Voltage	V_{DS}	800			V
Gate-Source Voltage	V_{GS}	± 30			V
Continue Drain Current	I_D	10			A
Pulsed Drain Current (Note1)	I_{DM}	40			A
Power Dissipation	P_D	160	60	160	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	997			mJ
Operating Temperature Range	T_J	150			$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150			$^{\circ}\text{C}$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.78	2.08	0.78	$^{\circ}\text{C/W}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	62.5	40	$^{\circ}\text{C/W}$

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

Electrical Characteristics at $T_c=25^{\circ}\text{C}$ unless otherwise specified

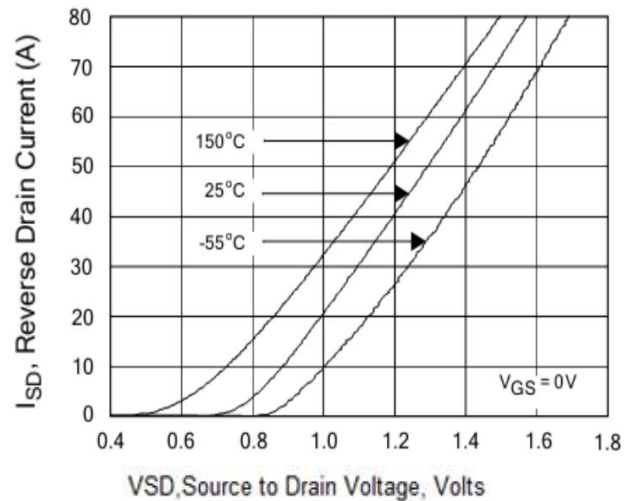
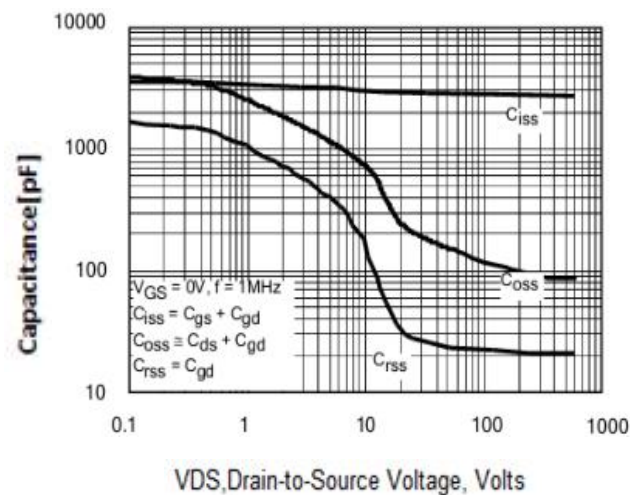
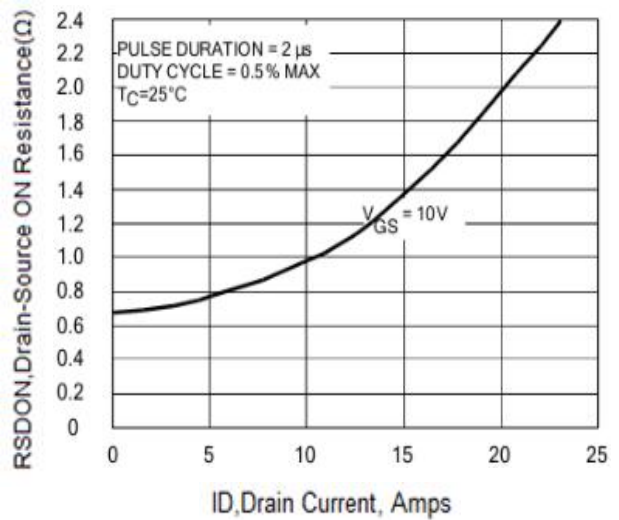
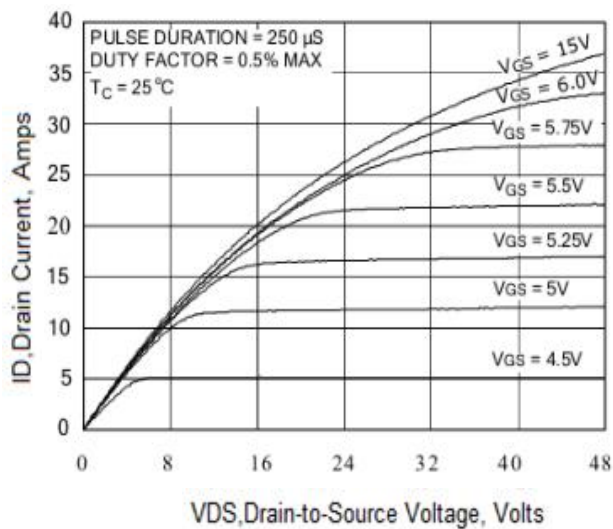
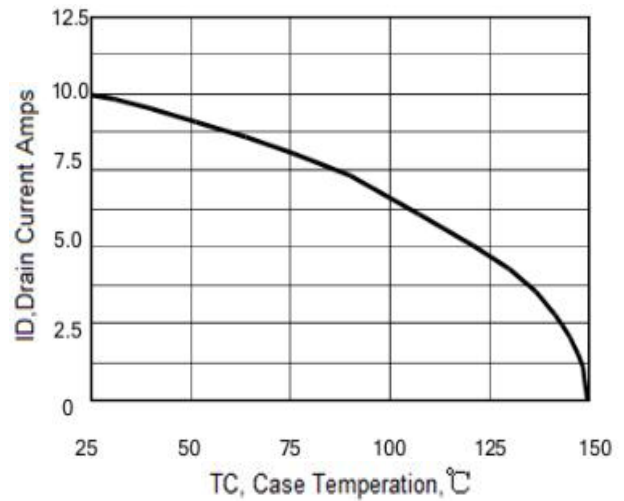
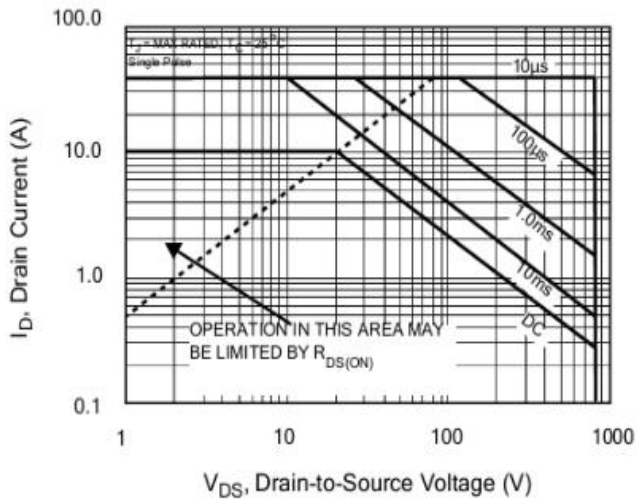
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_D = 250\text{ }\mu\text{A}$	BV_{DSS}	800	-	-	V
Drain-Source Leakage Current	$V_{DS} = 800\text{ V}, V_{GS} = 0\text{ V}$	I_{DSS}	-	-	1	μA
Gate Leakage Current	$V_{GS} = \pm 30\text{ V}, V_{DS} = 0\text{ V}$	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{A}$	$V_{GS(th)}$	3	-	5	V
Drain-Source On-State Resistance	$V_{GS} = 10\text{ V}, I_D = 1\text{ A}$	$R_{DS(on)}$	-	0.75	0.9	Ω
Forward Transconductance	$V_{DS} = 15\text{ V}, I_D = 10\text{ A}$	g_{fs}	-	20	-	S
Input Capacitance	$V_{GS} = 0\text{ V}, V_{DS} = 25\text{ V}, f = 1\text{ MHz}$	C_{iss}	-	1979	-	pF
Output Capacitance		C_{oss}	-	200	-	pF
Reverse Transfer Capacitance		C_{rss}	-	25	-	pF
Turn-on Delay Time(Note2)	$I_D = 10\text{ A}, V_{DD} = 400\text{ V}, R_G = 10\text{ }\Omega$	$t_d(ON)$	-	19	-	ns
Rise Time(Note2)		t_r	-	10	-	ns
Turn-Off Delay Time(Note2)		$t_d(OFF)$	-	68	-	ns
Fall Time(Note2)		t_f	-	23	-	ns
Total Gate Charge(Note2)	$I_D = 10\text{ A}, V_{DD} = 640\text{ V}, V_{GS} = 10\text{ V}$	Q_G	-	83	-	nC
Gate to Source Charge(Note2)		Q_{GS}	-	15	-	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	28	-	nC

Source-Drain Diode Characteristics at $T_a=25^{\circ}\text{C}$ unless otherwise specified

Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current		I_S	-	-	10	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	40	A
Drain-Source Diode Forward Voltage	$I_{SD} = 10\text{ A}$	V_{SD}	-	-	1.5	V
Reverse Recovery Time(Note2)	$I_{SD} = 10\text{ A}, V_{GS} = 0\text{ V}, dI_F / dt = 100\text{ A}/\mu\text{s}$	t_{rr}	-	200	-	ns
Reverse Recovery Charge(Note2)		Q_{rr}	-	2.2	-	μC

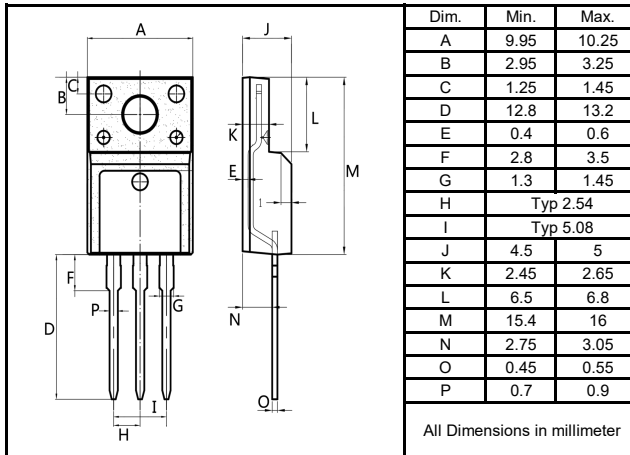
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

RATINGS AND CHARACTERISTIC CURVES

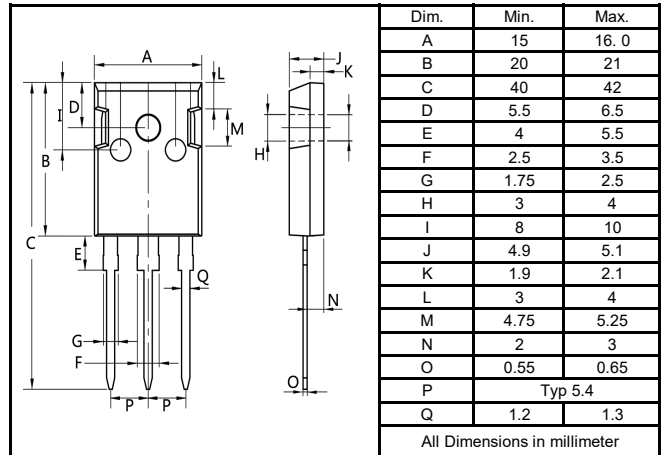


Package Outline Dimensions millimeters

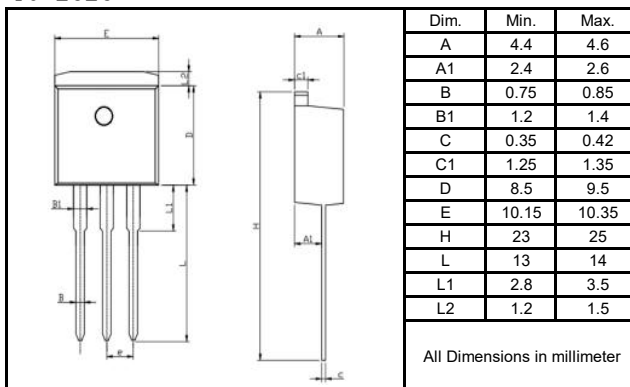
T0-220F



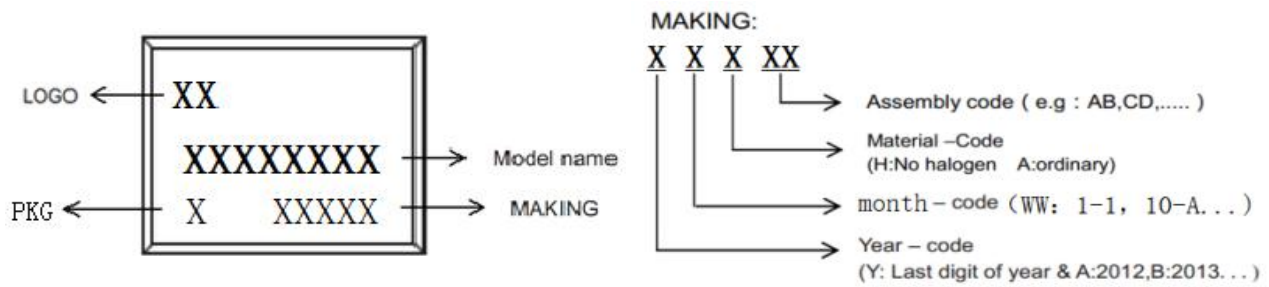
T0-247



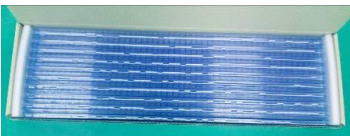
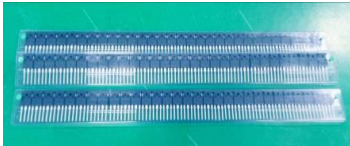
T0-262C



Marking on the body



packing instruction

PKG	Minimal Package	Box	Carton
TO-220F TO-262C			
	50pcs/pdpe	1000pcs/box	5000pcs/box
TO-247			
	30pcs/pdpe	600pcs/box	3000pcs/box



CS10N80A8/6/I

N-Channel Enhancement Mode Power MOSFET

Notice

All product, product specifications and data are subject to change without notice to improve. The right to explain is owned by LINGXUN electronics company.

Confirm that operation temperature is within the specified range described in the product specification. Avoid applying power exceeding normal rated power; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.

LINGXUN electronics shall not be in any way responsible or liable for failure induced under deviant condition from what is defined in this document; exceeding the power rating under steady-state loading condition may negatively affect product performance and reliability.

Revision History

Rev	Changes	Date
1.0	First version	2025-9-18