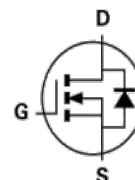


N-Channel Enhancement Mode Power MOSFET

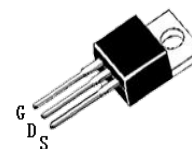
MAIN CHARACTERISTICS

I_D	110A
V_{DSS}	55V
$R_{DS(on)-typ}$ (@ $V_{GS}=10V, I_D = 55 A$)	6.5mΩ



FEATURES

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



TO-220AB

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

Product specification classification

Part Number	Package	Mode Name	Pack
IRF3205A	TO-220AB	RM3205A	Tube

N-Channel Enhancement Mode Power MOSFET

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	55	V
Gate-Source Voltage	V_{GS}	±20	V
Continue Drain Current	I_D	110	A
Pulsed Drain Current (Note1)	I_{DM}	390	A
Power Dissipation	P_D	200	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	20	mJ
Operating Temperature Range	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.75	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62	°C/W

Electrical Characteristics at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0 \text{ V}, I_D = 250 \mu\text{A}$	BV_{DSS}	55	-	-	V
Drain-Source Leakage Current	$V_{DS} = 55 \text{ V}, V_{GS} = 0 \text{ V}$	I_{DSS}	-	-	25	uA
Gate Leakage Current	$V_{GS} = \pm 20 \text{ V}, V_{DS} = 0 \text{ V}$	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250 \mu\text{A}$	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance	$V_{GS} = 10 \text{ V}, I_D = 1 \text{ A}$	$R_{DS(on)}$	-	6.5	9	mΩ
Drain-Source On-State Resistance	$V_{GS} = 10 \text{ V}, I_D = 30 \text{ A}$	$R_{DS(on)}$	-	6.8	8	mΩ
Drain-Source On-State Resistance	$V_{GS} = 10 \text{ V}, I_D = 55 \text{ A}$	$R_{DS(on)}$	-	6.5	7	mΩ
Forward Transconductance	$V_{DS} = 50 \text{ V}, I_D = 35 \text{ A}$	g_{fs}	44	-	-	S
Input Capacitance	$V_{GS} = 0 \text{ V}, V_{DS} = 25 \text{ V}, f = 1 \text{ MHz}$	C_{iss}	-	3247	-	pF
Output Capacitance		C_{oss}	-	781	-	pF
Reverse Transfer Capacitance		C_{rss}	-	211	-	pF
Turn-on Delay Time(Note2)	$I_D = 55 \text{ A}, V_{DD} = 25 \text{ V}, R_G = 4.5 \Omega, V_{GS} = 10 \text{ V}$	$t_{d(ON)}$	-	14	-	ns
Rise Time(Note2)		t_r	-	101	-	ns
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	50	-	ns
Fall Time(Note2)		t_f	-	65	-	ns
Total Gate Charge(Note2)	$I_D = 55 \text{ A}, V_{DD} = 40 \text{ V}, V_{GS} = 10 \text{ V}$	Q_G	-	-	146	nC
Gate to Source Charge(Note2)		Q_{GS}	-	-	35	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	-	54	nC

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

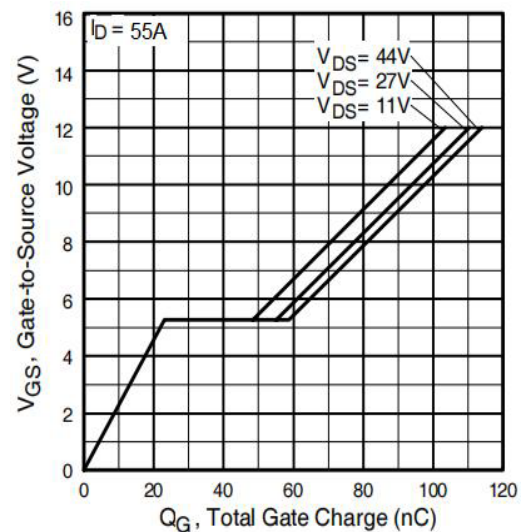
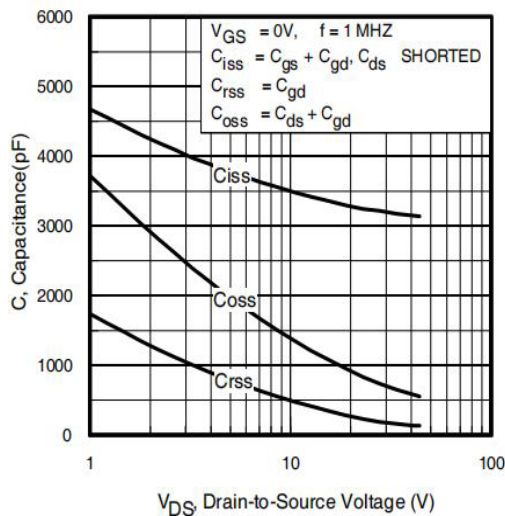
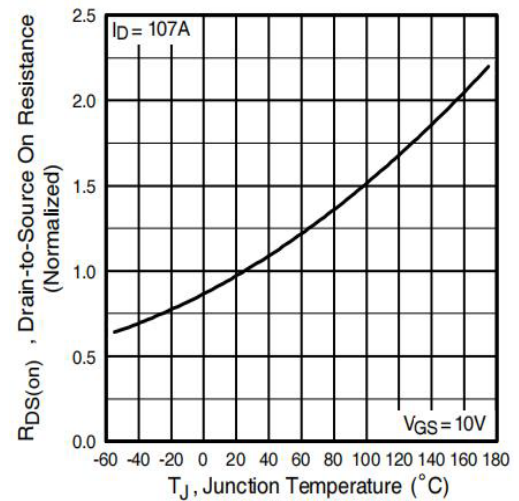
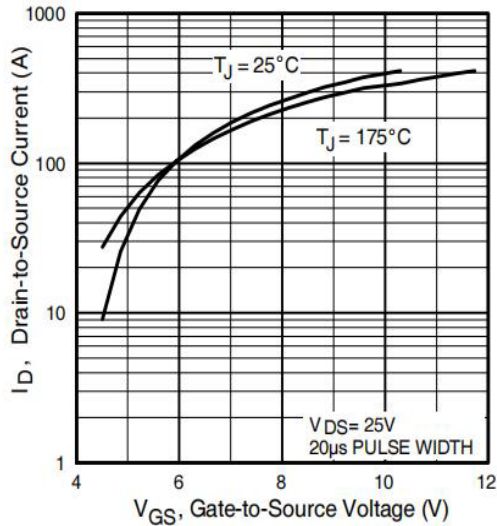
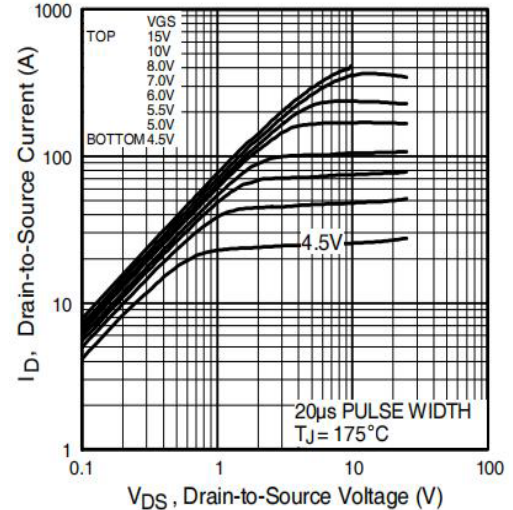
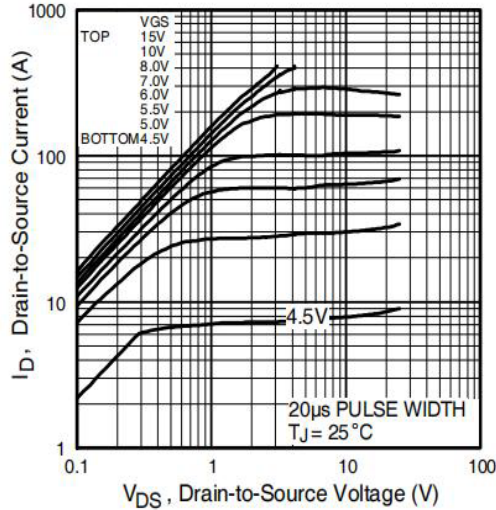
Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current		I_S	-	-	110	A
Maximun Body-Diode Pulsed Current(Note2)		I_{SM}	-	-	390	A
Drain-Source Diode Forward Voltage	$I_{SD} = 25 \text{ A}$	V_{SD}	-	-	1	V
Reverse Recovery Time(Note2)	$I_F = 55 \text{ A}, dI_F / dt = 100 \text{ A}/\mu\text{s}$	t_{rr}	-	-	104	ns
Reverse Recovery Charge(Note2)		Q_{rr}	-	-	215	nC

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

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

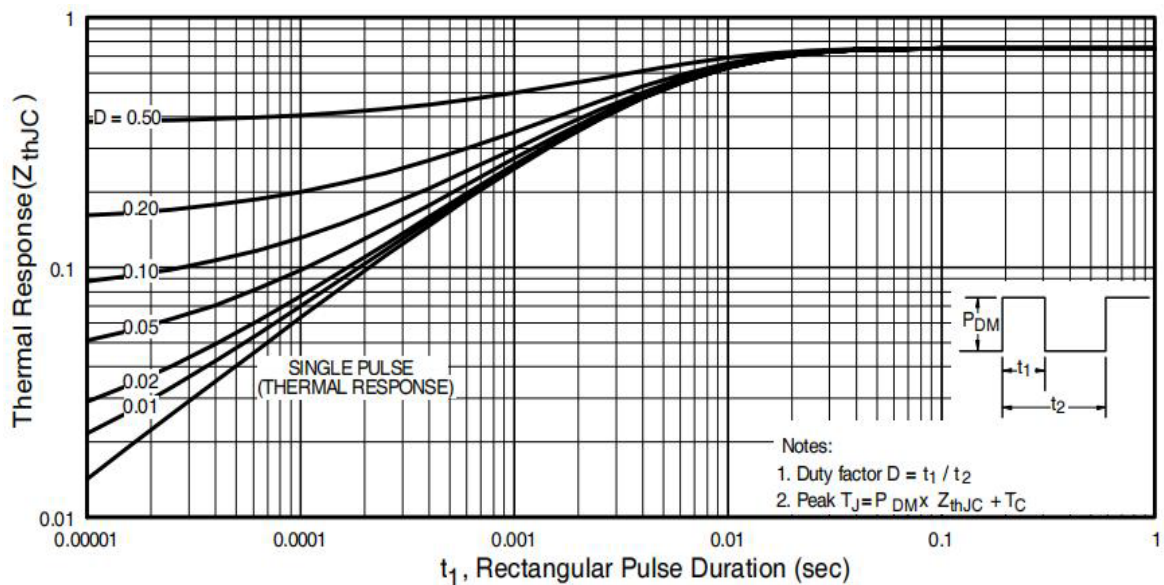
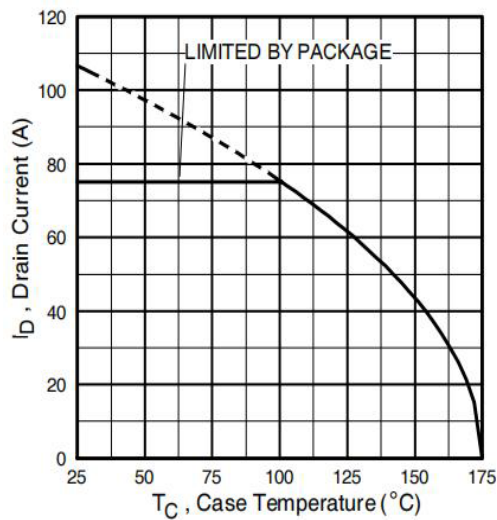
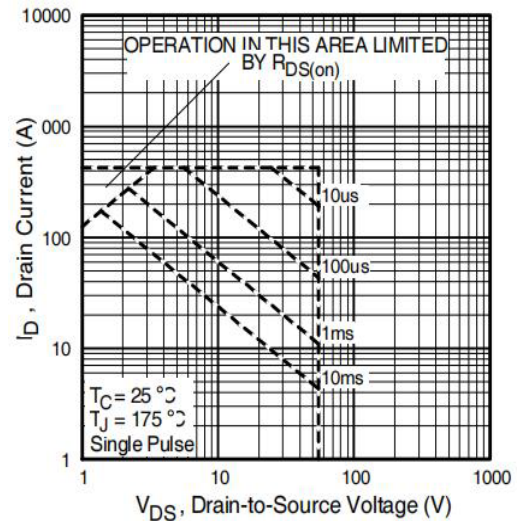
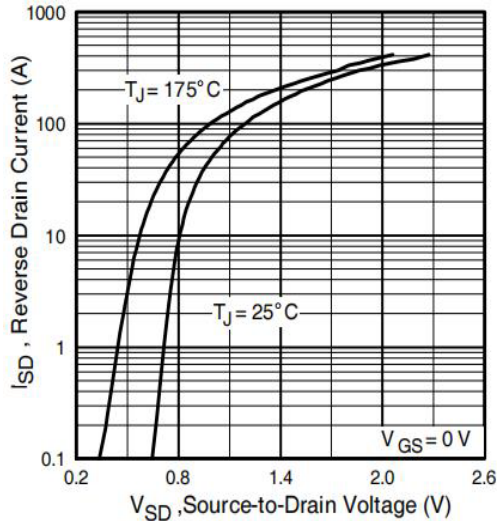
N-Channel Enhancement Mode Power MOSFET

RATINGS AND CHARACTERISTIC CURVES



N-Channel Enhancement Mode Power MOSFET

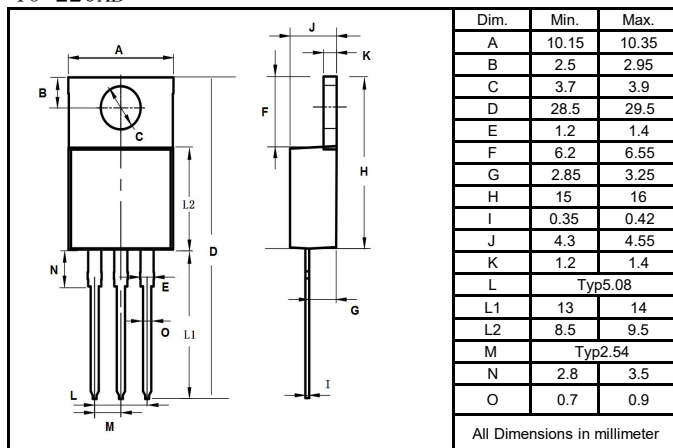
RATINGS AND CHARACTERISTIC CURVES



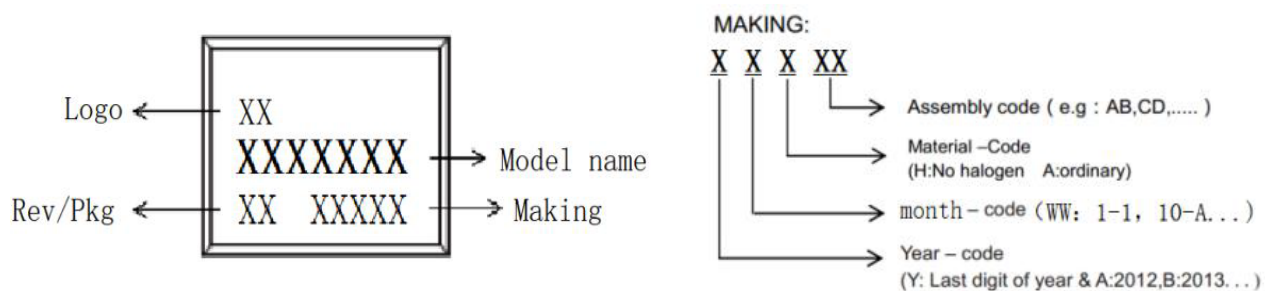
N-Channel Enhancement Mode Power MOSFET

Package Outline Dimensions millimeters

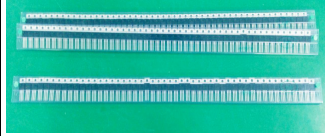
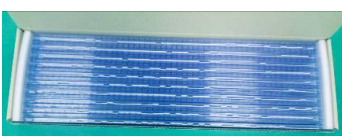
TO-220AB



Marking on the body



packing instruction

PKG	最小包装	内盒	外箱
TO-220AB			
	50PCS/管	1000pcs/盒	5000pcs/箱