

MAIN CHARACTERISTICS

I_D	260A
V_{DSS}	100V
$R_{DS(on)-typ}$ (@ $V_{GS}=10V$)	1.3m Ω

FEATURES

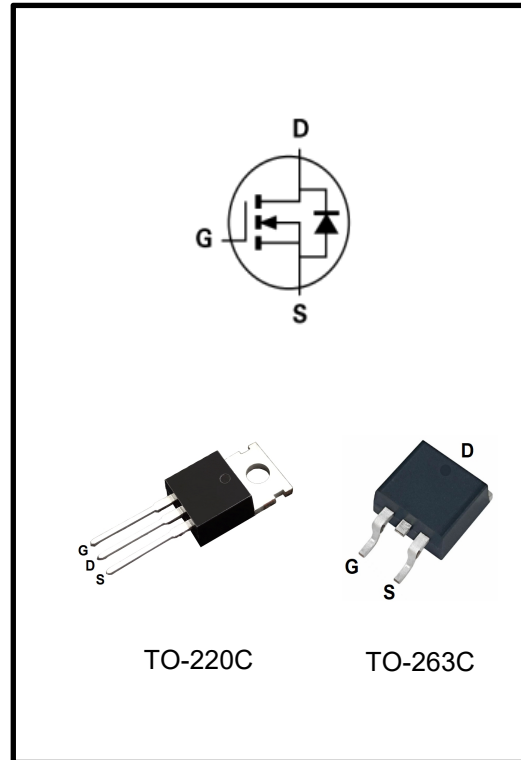
- Ultra-Low $R_{DS(ON)}$
- Low Gate Charge
- High Current Capability

APPLICATIONS

- Power Management in Telecom., Industrial Automation
- Motor Driving in Power Tool, E-vehicle, Robotics
- Current Switching in DC/DC&AC/DC(SR) Sub-systems

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
LG260N10AP	TO-220C	LG260N10AP	Tube
LG260N10AT	TO-263C	LG260N10AT	Tape

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continue Drain Current	I_D	260	A
Pulsed Drain Current (Note1)	I_{DM}	1040	A
Power Dissipation	P_D	284	W
Single Pulse Avalanche Energy	E_{AS}	1820	mJ
Operating Temperature Range	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C
Thermal Resistance, Junction to Case(Note 2)	$R_{\theta JC}$	0.5	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	40	°C/W

Electrical Characteristics at Tc=25°C unless otherwise specified

Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0\text{ V}, I_D = 250\text{ }\mu\text{A}$	BV_{DSS}	100	-	-	V
Drain-Source Leakage Current	$V_{DS} = 100\text{ V}, V_{GS} = 0\text{ V}$	I_{DSS}	-	-	1	μA
Gate Leakage Current	$V_{GS} = \pm 20\text{ V}, V_{DS} = 0\text{ V}$	I_{GSS}	-	-	± 100	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250\text{ }\mu\text{A}$	$V_{GS(th)}$	2	-	4	V
Drain-Source On-State Resistance	$V_{GS} = 10\text{ V}, I_D = 20\text{ A}$	$R_{DS(on)}$	-	1.3	1.6	m Ω
Input Capacitance	$V_{GS} = 0\text{ V}, V_{DS} = 20\text{ V}, f = 1\text{ MHz}$	C_{iss}	-	12600	-	pF
Output Capacitance		C_{oss}	-	4800	-	pF
Reverse Transfer Capacitance		C_{rss}	-	320	-	pF
Turn-on Delay Time	$V_{DS}=20\text{ V}, I_D=20\text{ A}$ $V_{GS}=10\text{ V}, R_G=3\Omega$	$t_{d(ON)}$	-	40	-	ns
Rise Time		t_r	-	68	-	ns
Turn-Off Delay Time		$t_{d(OFF)}$	-	130	-	ns
Fall Time		t_f	-	90	-	ns
Total Gate Charge	$V_{DS}=100\text{ V}, I_D=20\text{ A}, V_{GS}=10\text{ V}$ (Note3,4)	Q_G	-	235	-	nC
Gate to Source Charge		Q_{GS}	-	153	-	nC
Gate to Drain Charge		Q_{GD}	-	55	-	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 (Note 2)		I_S	-	-	260	A
Maximun Body-Diode Pulsed Current		I_{SM}	-	-	1040	A
Body Diode Voltage	$I_S = 20\text{ A}, V_{GS} = 0\text{ V}$	V_{SD}	-	-	1.2	V
Reverse Recovery Time	$I_S = I_F, I_S=20\text{ A}, V_{GS} = 0\text{ V},$	t_{rr}	-	113	-	ns
Reverse Recovery Charge	$di/dt = 100\text{ A}/\mu\text{s}$ (Note3)	Q_{rr}	-	275	-	nC

RATINGS AND CHARACTERISTIC CURVES

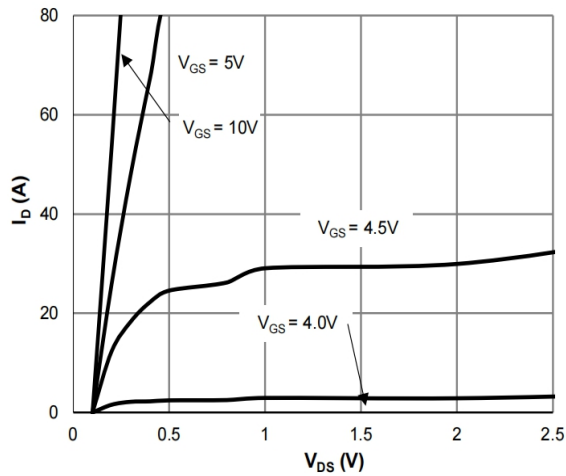


Figure 1: Saturation Characteristics

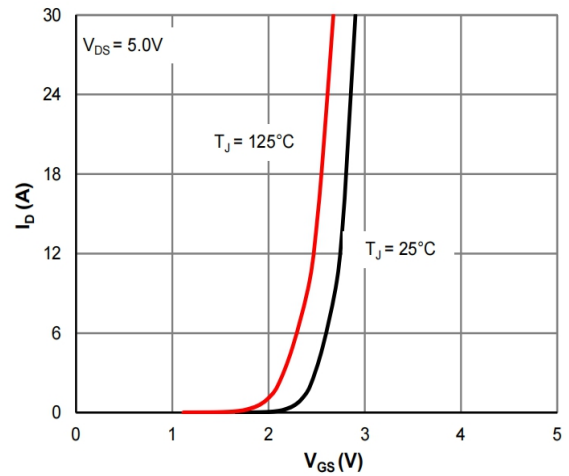


Figure 2: Transfer Characteristics

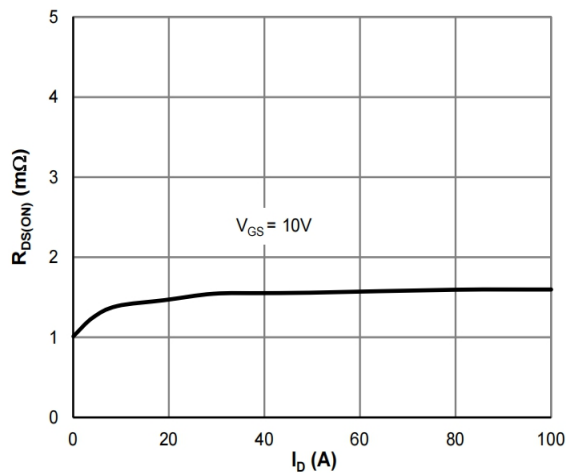


Figure 3: $R_{DS(ON)}$ vs. Drain Current

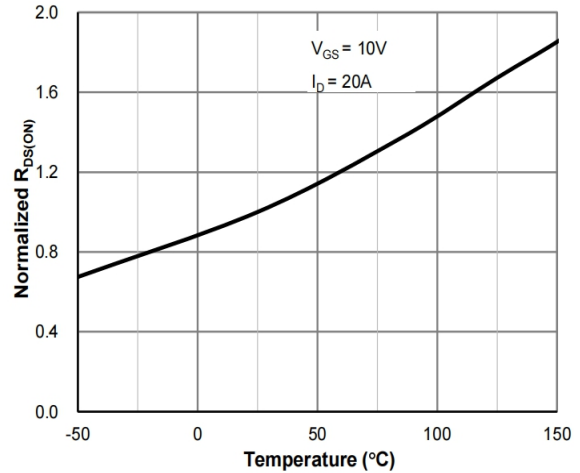


Figure 4: $R_{DS(ON)}$ vs. Junction Temperature

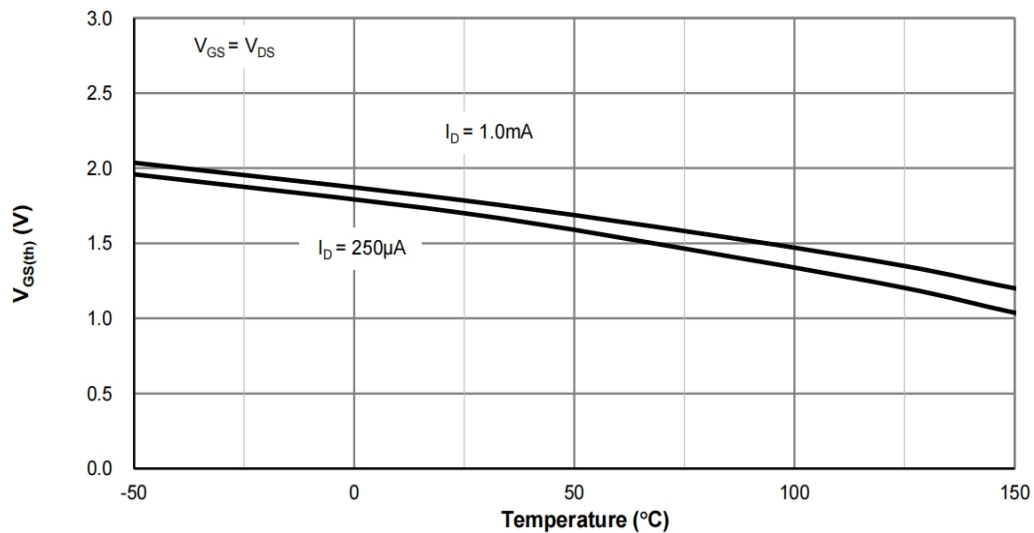


Figure 5: $V_{GS(th)}$ vs. Junction Temperature

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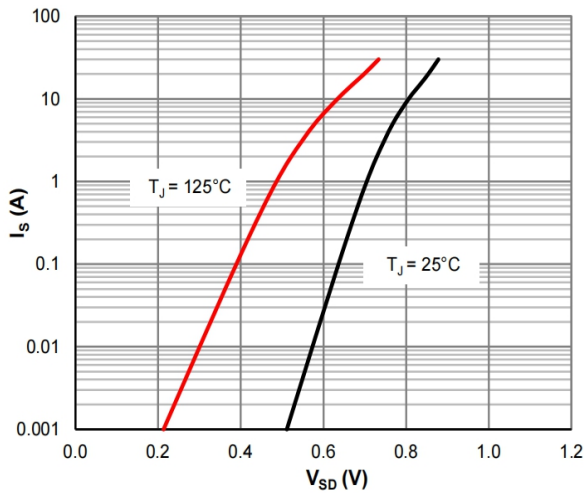


Figure 7: Body-Diode Characteristics

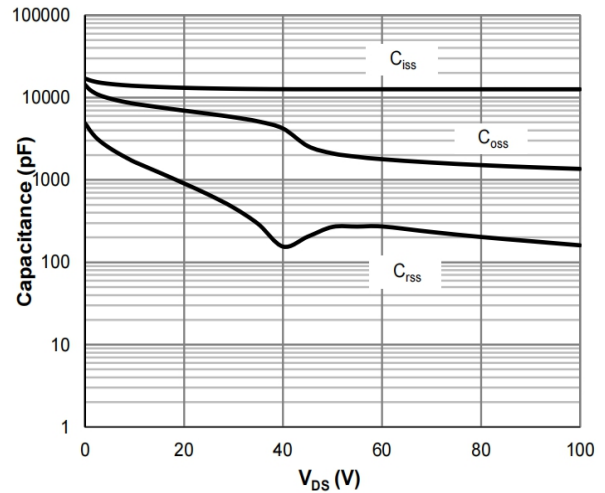


Figure 8: Capacitance Characteristics

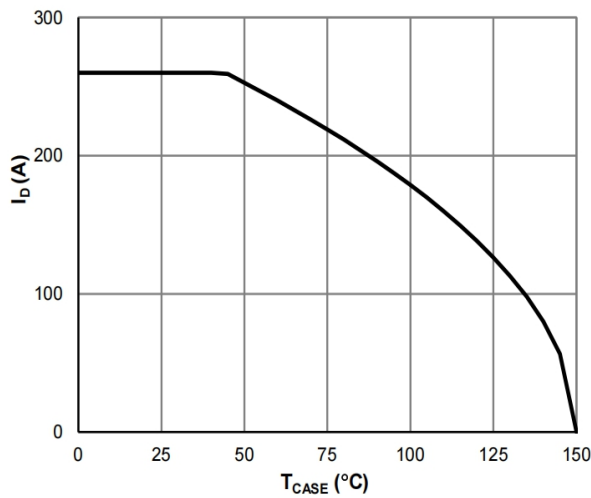


Figure 9: Current De-rating

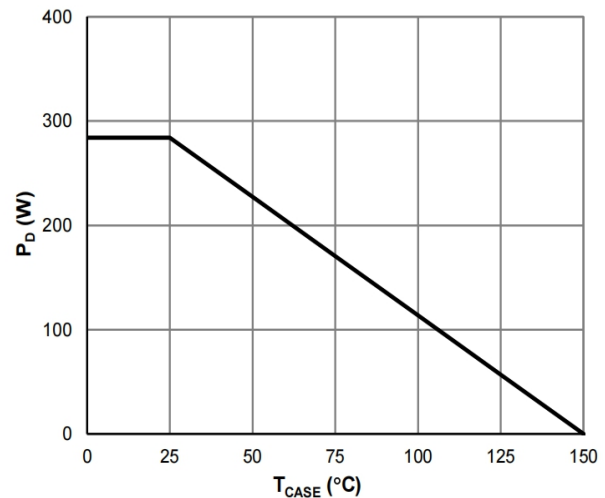


Figure 10: Power De-rating

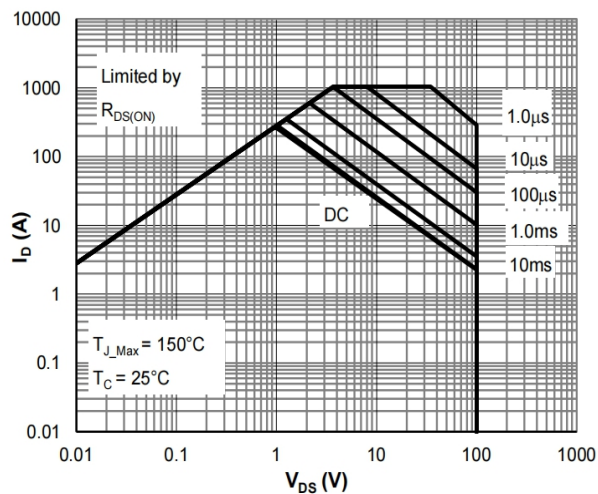


Figure 11: Maximum Safe Operating Area

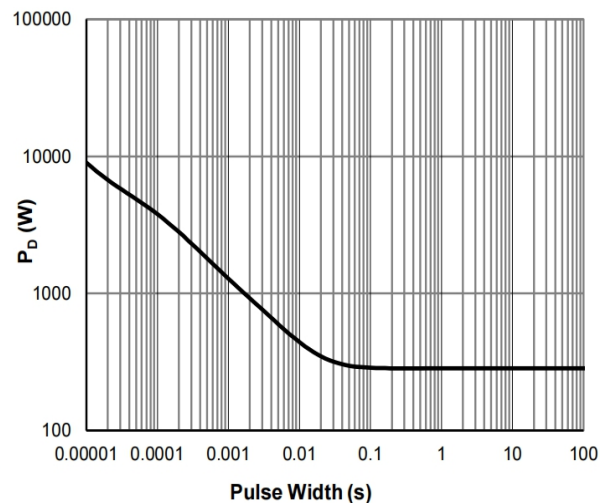


Figure 12: Single Pulse Power Rating, Junction-to-Case

RATINGS AND CHARACTERISTIC CURVES

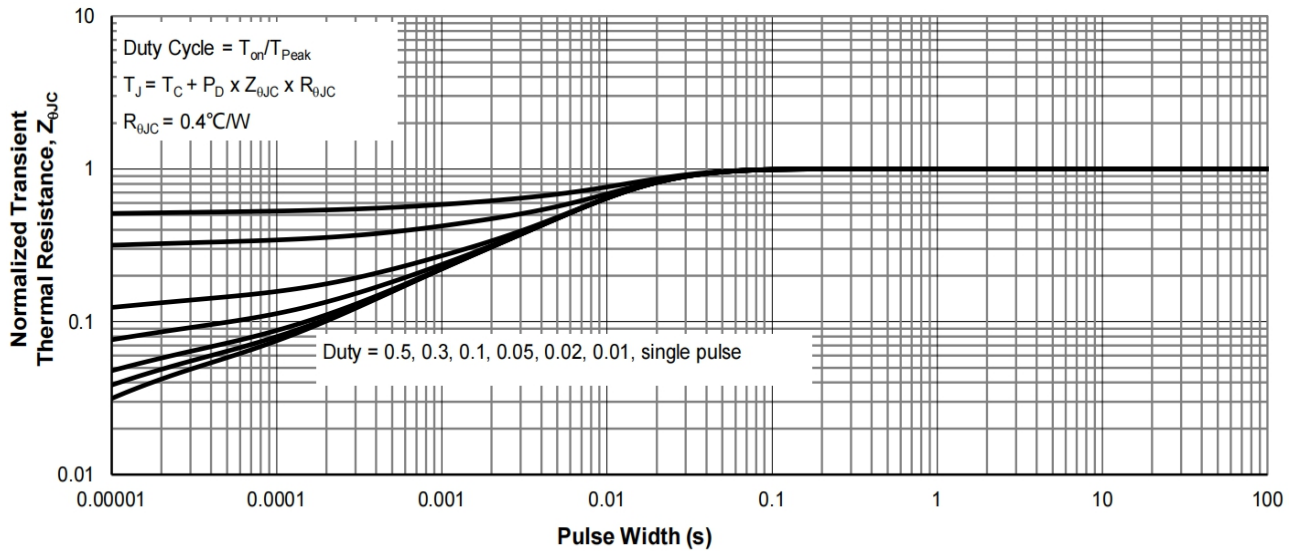
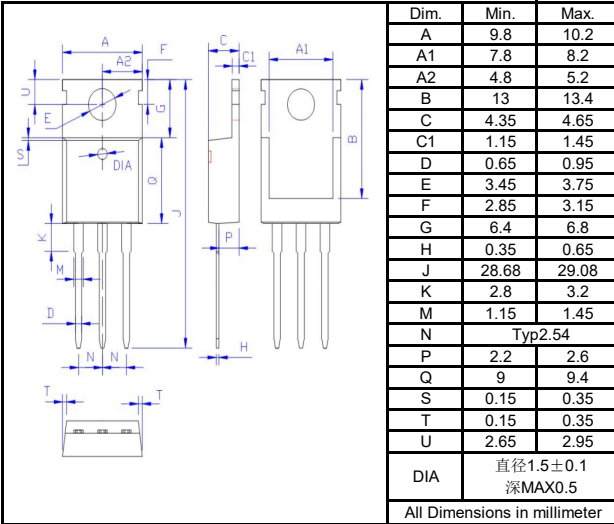


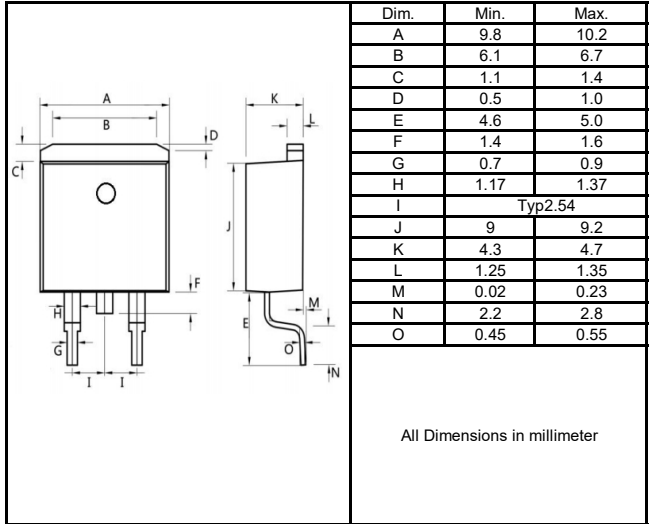
Figure 13: Normalized Transient Thermal Impedance

Package Outline Dimensions millimeters

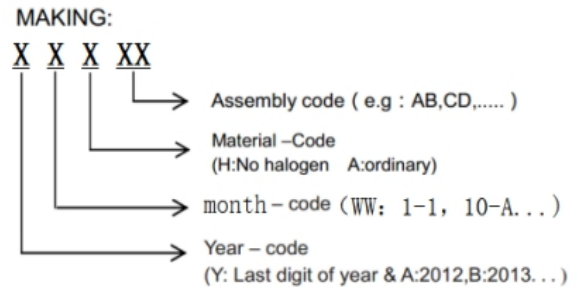
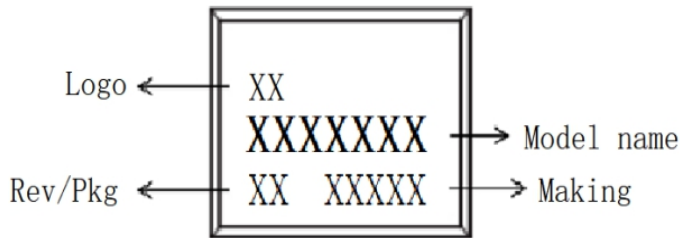
TO-220C



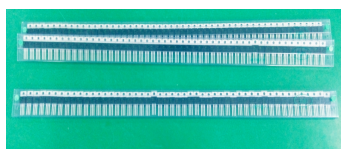
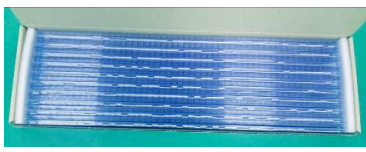
TO-263C



Marking on the body



packing instruction

PKG	最小包装	内盒	外箱
TO-220C TO-263C			
	50PCS/管	1000pcs/盒	5000pcs/箱
TO-263C			
	800pcs/盘	1600pcs/盒	8000pcs/箱

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 poer exceeding normal rated poer; 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.