

MAIN CHARACTERISTICS

I_D	111A
V_{DS}	800V
$R_{DS(on)-Typ@ V_{GS}=18V}$	23m Ω

FEATURES

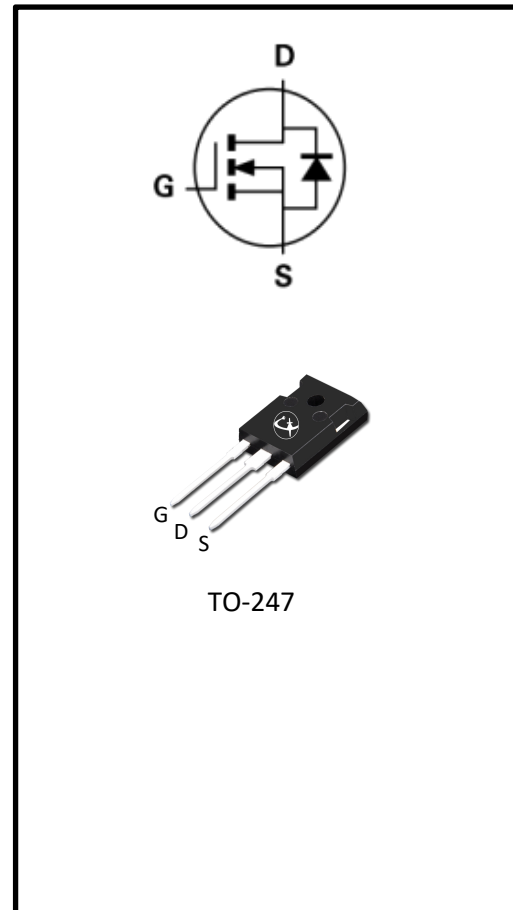
- High Speed Switching
- High Blocking Voltage with Low $R_{DS(on)}$
- Easy to Paralle
- Simple to Drive

Benefits

- Increased Power Density
- Faster Operating Freequenc
- Reduction of Heat Sink Requirements
- Higher Efficiency
- Reduced EMI

APPLICATIONS

- Power Factor Correction Modules
- Switch Mode Power Supplies
- DC-AC Inverters
- High Voltage DC/DC Converters



Product specification classification

Part Number	Package	Mode Name	Pack
LSC025M65B	TO-247	LSC025M65B	Tube

Maximum Ratings at Tc=25°C unless otherwise specified

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	800	V
Gate-Source Voltage	V_{GS}	-8/+22	V
Gate-Source Voltage,max.Transient Voltage $t_p \leq 0.5\mu s, D < 0.001$	V_{GSmax}	-8/+22	V
Recommended Operation Value	V_{GSop}	-4/+18	V
Continue Drain Current $T_c=25^\circ C$	I_D	111	A
Continue Drain Current $T_c=100^\circ C$		79	
Pulsed Drain Current	I_{DM}	230	A
Non-Repetitive Avalanche Switching Energy	E_{AS}	1012	mJ
Repetitive Avalanche Energy	E_{AR}	627	mJ
Short-Circuit Withstand Time	t_{SC}	2.5	μs
Power Dissipation $TC=25^\circ C$	P_D	341	W
Power Dissipation $TC=100^\circ C$		208	
Operating Temperature Range	T_J	-40 to +175	$^\circ C$
Storage Temperature Range	T_{STG}	-40 to +175	$^\circ C$
Soldering Temperature	T_{sld}	260	$^\circ C$
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.44	$^\circ C/W$
Thermal Resistance, Junction to	$R_{\theta JA}$	26.8	$^\circ C/W$

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

Electrical Characteristics at Tc=25°C unless otherwise specified

Parameter	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0 V, I_D = 100\mu A$	BV_{DSS}	800	-	-	V
Drain-Source Leakage Current	$V_{DS} = 800V, V_{GS} = 0 V$	I_{DSS}	-	1	-	μA
Gate Leakage Current	$V_{GS} = 18 V, V_{DS} = 0 V$	I_{GSS}	-	-	250	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 10 mA$ $T_J = 25^\circ C$	$V_{GS(th)}$	2	2.7	4	V
	$V_{DS} = V_{GS}, I_D = 10 mA$ $T_J = 175^\circ C$		-	2	-	V
Drain-Source On-State Resistance	$V_{GS} = 18 V, I_D = 33.5 A$ $T_J = 25^\circ C$	$R_{DS(on)}$	-	23	31	m Ω
	$V_{GS} = 18 V, I_D = 33.5 A$ $T_J = 175^\circ C$		-	25	-	m Ω
Forward Transconductance	$V_{DS}=20V, I_D=33.5A$	g_{fs}	-	24	-	S
Internal Gate Resistance	$f=1MHz$	$RG(int)$	-	1.6	-	Ω
Input Capacitance	$V_{DS}=600V, V_{GS}=0V,$ $f=100KHz$	C_{iss}	-	2162	-	pF
Output Capacitance		C_{oss}	-	195	-	pF
Reverse Transfer Capacitance		C_{rss}	-	14	-	pF
Coss Stored Energy		E_{oss}	-	40	-	μJ
Total Gate Charge(Note2)	$I_D = 33.5A, V_{DD} = 400V,$ $V_{GS} = -4/+ 18 V$	Q_G	-	100	-	nC
Gate to Source Charge(Note2)		Q_{GS}	-	25	-	nC
Gate to Drain Charge(Note2)		Q_{GD}	-	28	-	nC

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

Parameter	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current	VGS = -4 V, Tc=25°C	I _S	-	79	-	A
	VGS = -4 V, Tc=100°C		-	45	-	A
Maximun Body-Diode Pulsed Current(Note2)		I _{SM}	-	230	-	A
Drain-Source Diode Forward Voltage	VGS = -4 V, I _{SD} = 16.8A Tj=25°C	V _{SD}	-	3.8	-	V
	VGS = -4 V, I _{SD} =16.8A Tj=175°C		-	3.4	-	V
	VGS = -4 V, I _{SD} = 33.5 A Tj=25°C		-	4.2	-	V
	VGS = -4 V, I _{SD} =33.5 A Tj=175°C		-	3.9	-	V
Reverse Recovery Time(Note2)	V _R =400V, dIF/dt =1862A/μs Tj=25°C	trr	-	19	-	ns
Reverse Recovery Charge(Note2)		Qrr	-	230	-	nC
Peak Reverse Recovery Current		Irrm	-	22.2	-	A
Reverse Recovery Time(Note2)	V _R =400V, dIF/dt =1764A/μs Tj=175°C	trr	-	22	-	ns
Reverse Recovery Charge(Note2)		Qrr	-	343	-	nC
Peak Reverse Recovery Current		Irrm	-	27.1	-	A

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

RATINGS AND CHARACTERISTIC CURVES

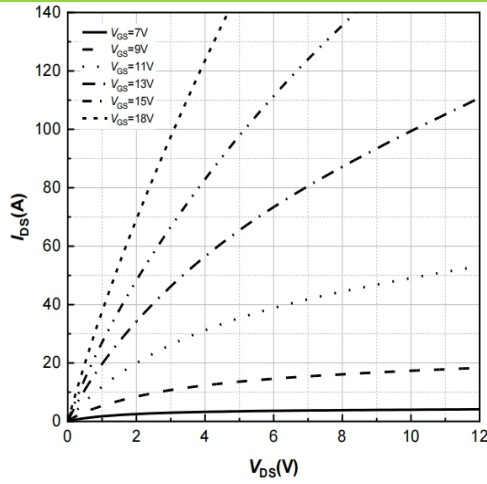


Figure 1. Output Characteristics
 $T_j = -40^\circ\text{C}$

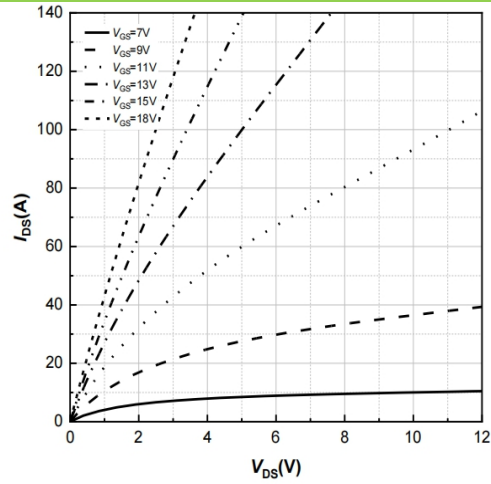


Figure 2. Output Characteristics
 $T_j = 25^\circ\text{C}$

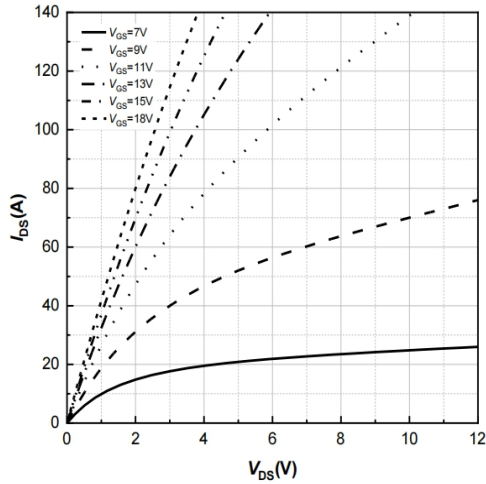


Figure 3. Output Characteristics
 $T_j = 175^\circ\text{C}$

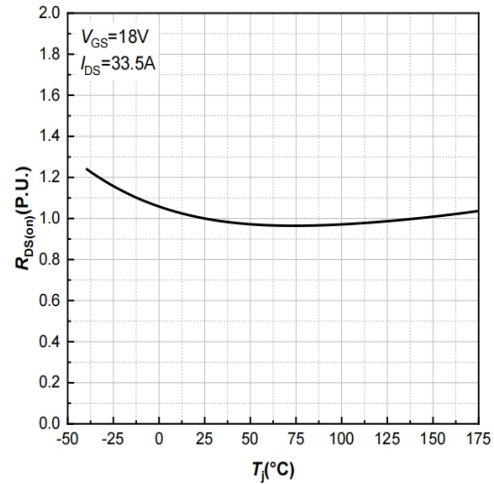


Figure 4. Normalized On-Resistance vs. Temperature

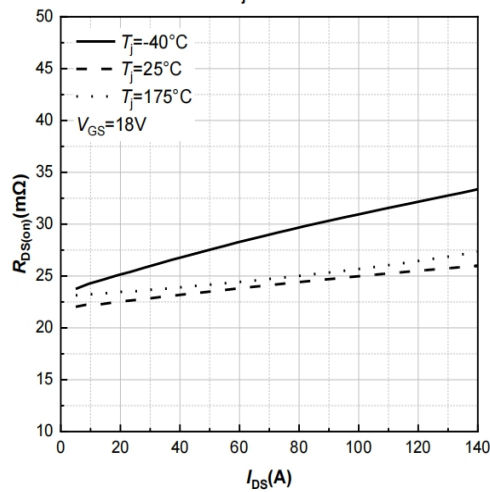


Figure 5. On-Resistance vs. Drain Current
For Various Temperatures

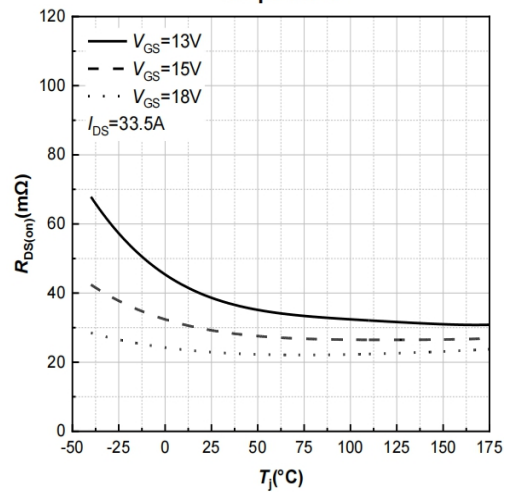


Figure 6. On-Resistance vs. Temperature
For Various Gate Voltage

RATINGS AND CHARACTERISTIC CURVES

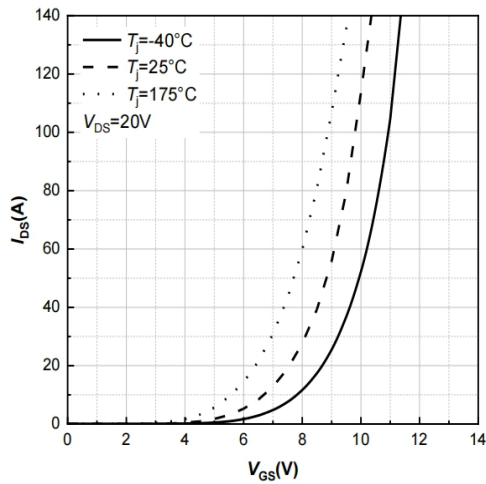


Figure 7. Transfer Characteristic for Various Junction Temperatures

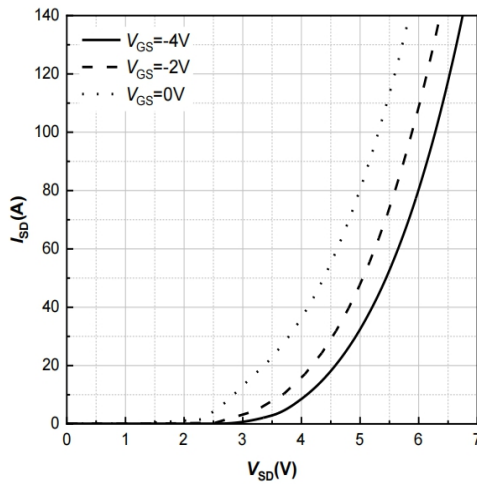


Figure 8. Body Diode Characteristic $T_J = -40^\circ\text{C}$

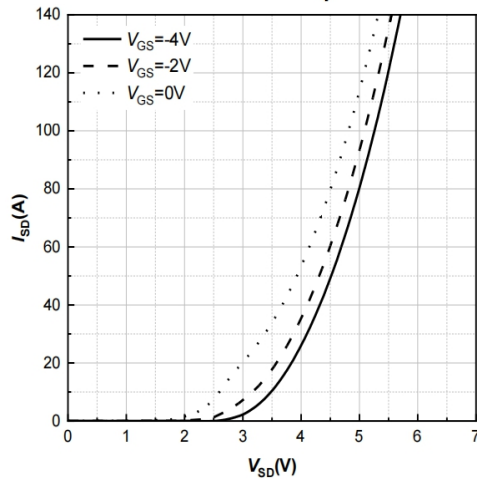


Figure 9. Body Diode Characteristic $T_J = 25^\circ\text{C}$

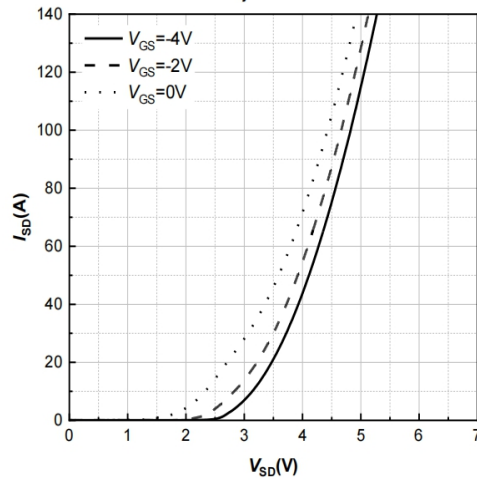


Figure 10. Body Diode Characteristic $T_J = 175^\circ\text{C}$

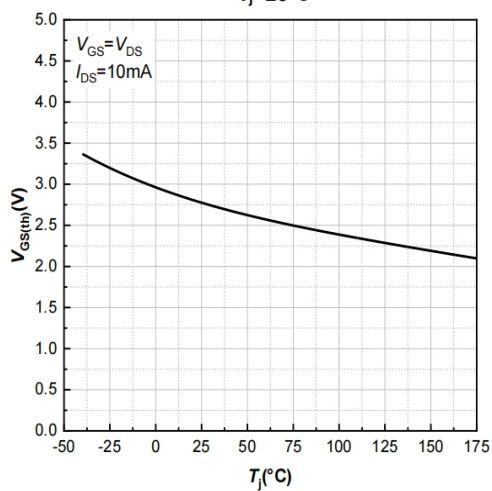


Figure 11. Threshold Voltage vs. Temperature

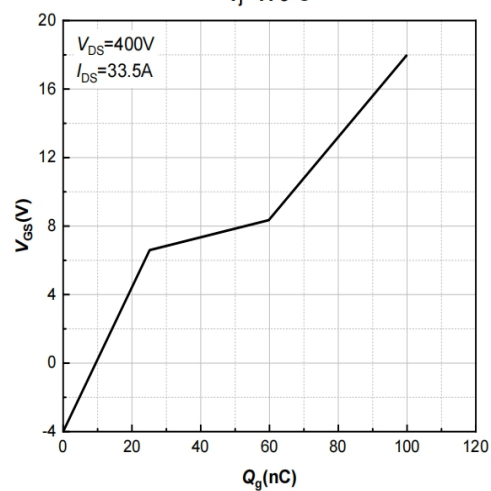


Figure 12. Gate Charge Characteristics

RATINGS AND CHARACTERISTIC CURVES

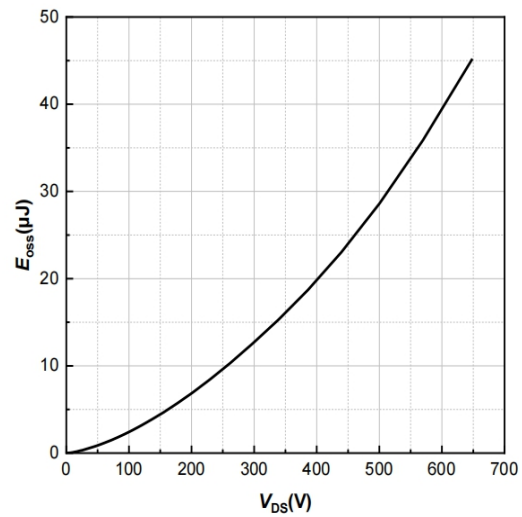
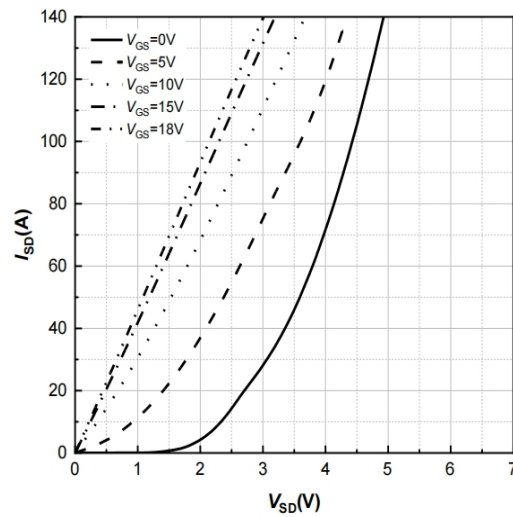
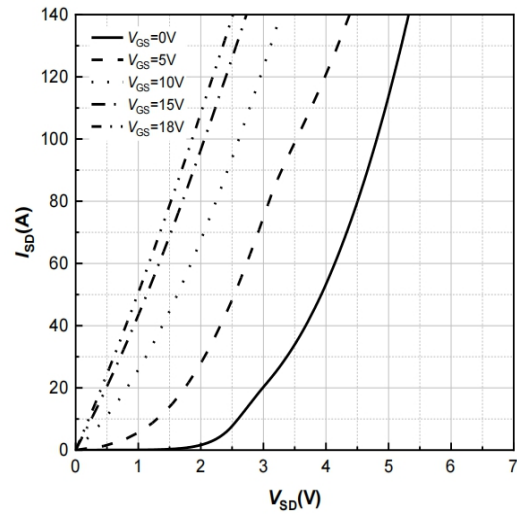
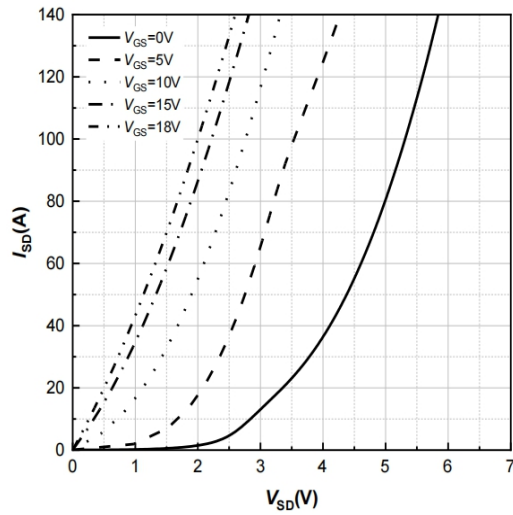


Figure 15. 3rd Quadrant Characteristic
 $T_J=175^{\circ}\text{C}$

Figure 16. Output Capacitor Stored Energy

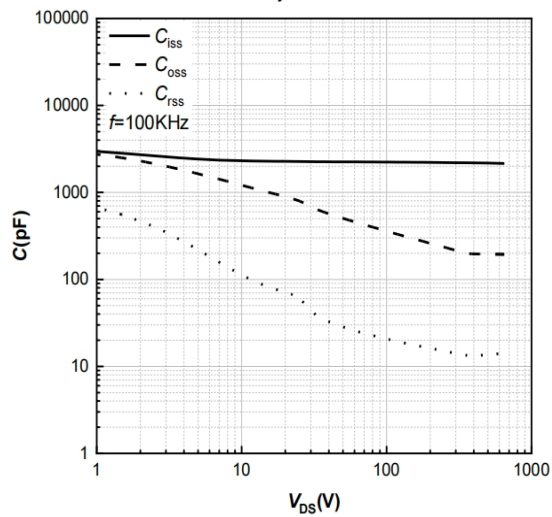
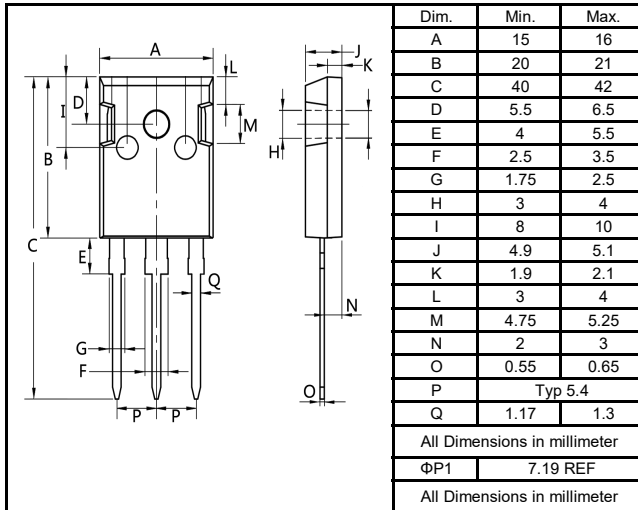


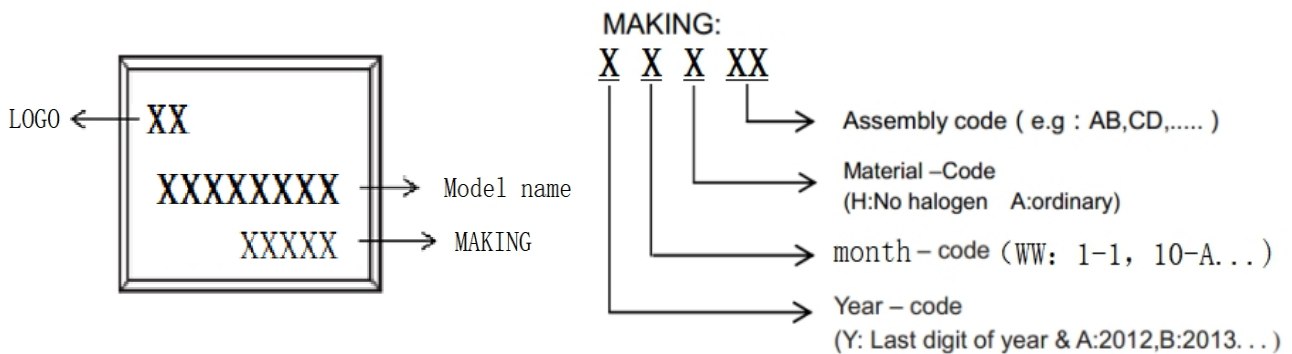
Figure 17. Capacitances vs. Drain-Source

Package Outline Dimensions millimeters

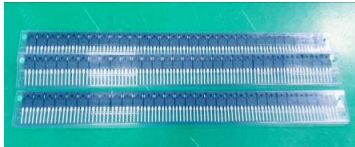
TO-247



Marking on the body



packing instruction

PKG	Minimal Package	Box	Carton
TO-247			
	30pcs/pdpe	600pcs/box	3000pcs/Carton

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.

<http://www.lxmicro.com>

Revision History

Rev	Changes	Date
1.0	First version	2025/9/26