

## Description

## Features

- Š
- Š Voltage controlled
- Š
- Š
- Š Low gate charge

## Typical Applications

- Š Over current protection circuits
- Š DC-AC inverters
- Š Switch mode power supplies
- Š Power factor correction modules
- Š Ěí'ë61"(fĐ !.ì ÓR<Ñ š ° Dà @„ !-ÈÑä a™





Electrical Characteristics (T<sub>J</sub> = +25°C unless otherwise specified)

Typical Performance - Static

Parameter	Symbol	Test Conditions	Value			Units
			Min	Typ	Max	
Drain-source breakdown voltage	BV <sub>DS</sub>	V <sub>GS</sub> = -20V, I <sub>D</sub> = 1mA	650			V
Total drain leakage current	I <sub>D</sub>	V <sub>DS</sub> = 650V, V <sub>GS</sub> = -20V, J = 25°C		8	60	FA
		V <sub>DS</sub> = 650V, V <sub>GS</sub> = -20V, J = 175°C		30		
Total gate leakage current	I <sub>G</sub>	V <sub>GS</sub> = -20V, J = 25°C		10	50	FA
		V <sub>GS</sub> = -20V, J = 175°C		32		
Drain-source on-resistance	R <sub>DS(on)</sub>	V <sub>GS</sub> = 2V, I <sub>D</sub> = 10A, T <sub>J</sub> = 25°C		68		m :
		V <sub>GS</sub> = 0V, I <sub>D</sub> = 10A, T <sub>J</sub> = 25°C		80	95	
		V <sub>GS</sub> = 2V, I <sub>D</sub> = 10A, T <sub>J</sub> = 175°C		114		
		V <sub>GS</sub> = 0V, I <sub>D</sub> = 10A, T <sub>J</sub> = 175°C		130		
Gate threshold voltage	V <sub>G(th)</sub>	V <sub>DS</sub> = 5V, I <sub>D</sub> = 20mA	-14	-11.5	-6	V
Gate resistance	R <sub>G</sub>	f = 1MHz, open drain		3.7		:



Typical Performance Diagrams

Figure 1 Typical output characteristics  
 at  $T_J = 55^\circ\text{C}$

Figure 2 Typical output characteristics  
 at  $T_J = 25^\circ\text{C}$

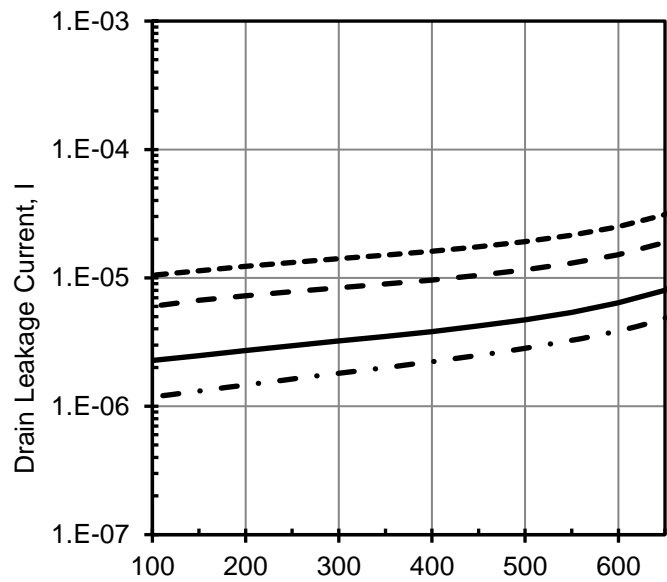


Figure 3 Typical output characteristics  
 at  $T_J = 175^\circ\text{C}$

Figure 4 Typical drain-source leakage  
 at  $V_{GS} = -20\text{V}$

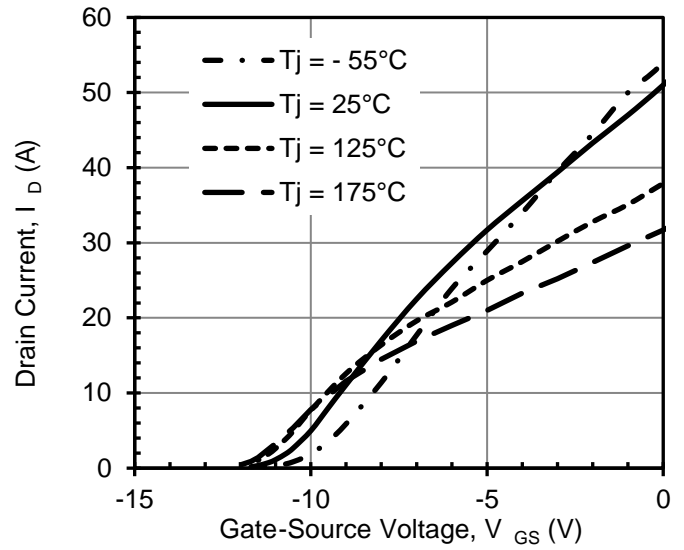
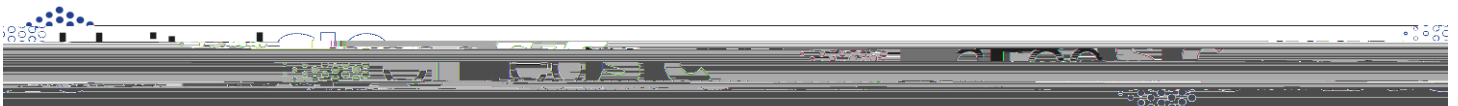


Figure 6 Typical transfer characteristics at  $V_{DS} = 5\text{V}$

Figure 5 Typical capacitances at 100kHz and  $V_{GS} = -20\text{V}$

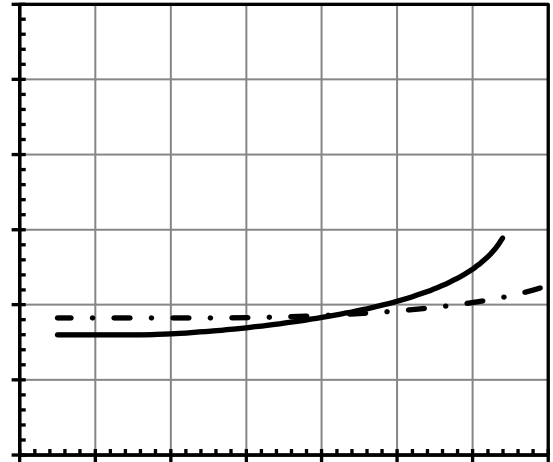


Figure 8 Typical drain-source on-resistance at  $V_{GS} = 0\text{V}$

Figure 7 Normalized on-resistance vs. temperature at  $V_{GS} = 0\text{V}$  and  $I_D = 10\text{A}$

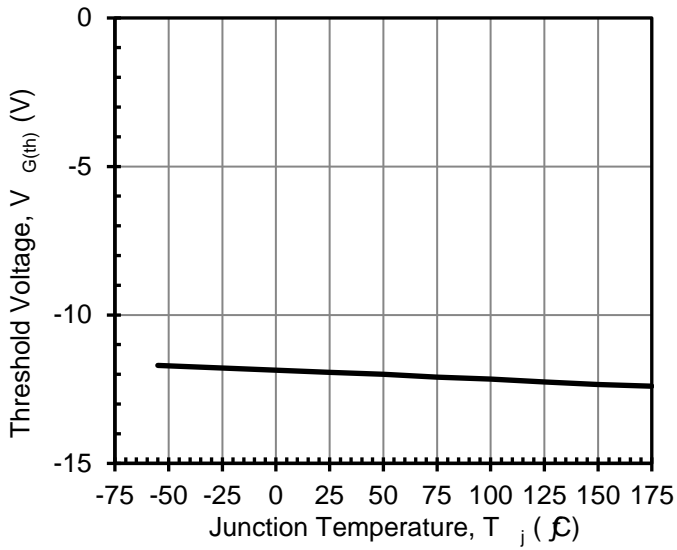
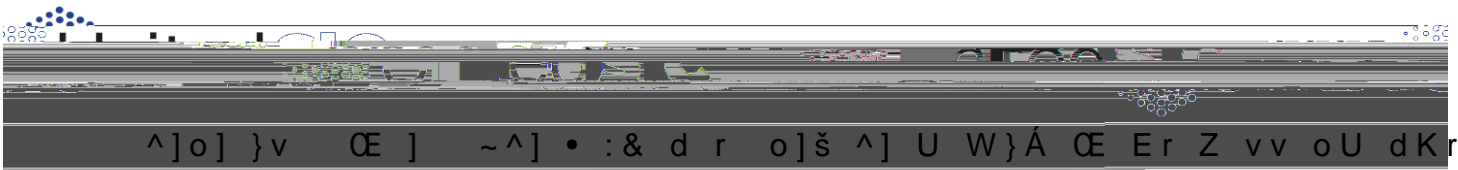


Figure 9 Threshold voltage vs.  $T_j$   
at  $V_{DS} = 5V$  and  $I_D = 20mA$

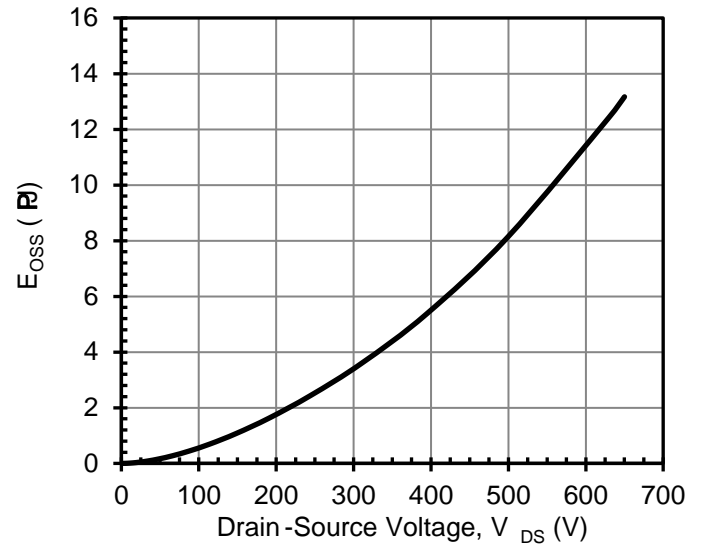


Figure 10 Typical stored energy in  $C_{oss}$   
at  $V_{GS} = -20V$

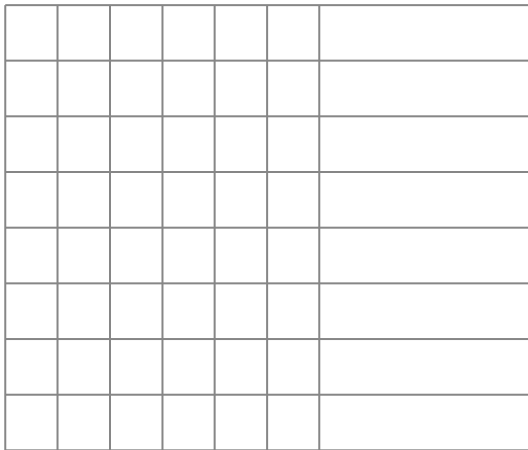


Figure 11 Total power Dissipation

Figure 12 Safe operation area  
 $T_c = 25^\circ C$ , Parameter  $t_p$

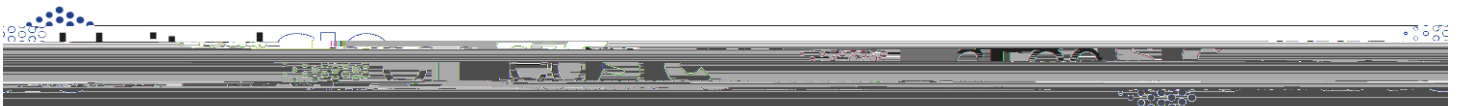


Figure 13 Typical gate leakage current  
at  $V_{DS} = 0V$

Figure 14 Typical gate forward current  
at  $V_{DS} = 0V$

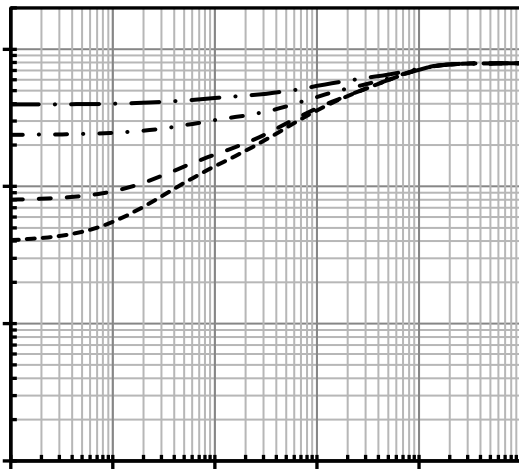


Figure 15 Maximum transient  
thermal impedance

Figure 16 Typical gate charge  
at  $V_{DS} = 400V$  and  $I_D = 24A$







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# TO-247-3L PACKA OUTLINE, PART MARK AND TUBE SPECIFICAT

## PACKAGE OUTLINE

SYM	MIN	MAX	MIN	MAX
A	0.185	0.209	4.699	5.309
A1	0.087	0.102	2.21	2.61
A2	0.059	0.098	1.499	



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