



- Low On-Resistance
- Excellent Gate Charge x $R_{DS(ON)}$ Product (FOM)
- Pb-Free Lead Plating
- RoHS and Halogen-Free Compliant
- 100% UIS Tested, 100% R_g Tested

Product Summary

	Value	Unit
	-100	V
	-2.0	V
	-30	A
	37	m
$R_{DS(ON_Typ)}$	50	m

D

G

○ S

Ordering Information

Device	Package	# of Pins	Marking	M	M	oØ	M
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Drain-to-Source - Ω M =

(1)	$T_C = 25^\circ\text{C}$	I_D	-30	A
	$T_C = 100^\circ\text{C}$		-19	

Avalanche Current⁽³⁾

-27

Avalanche Energy⁽³⁾

109

Power Dissipation⁽⁴⁾ $T_C = 25^\circ\text{C}$
 $T_C = 100^\circ\text{C}$

P_D

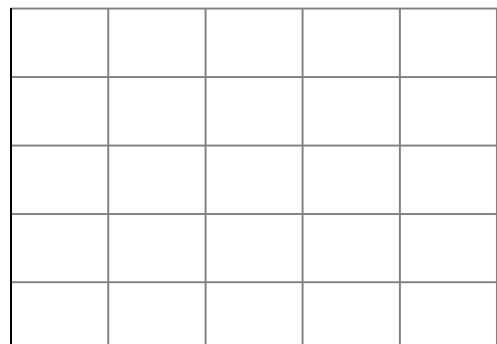
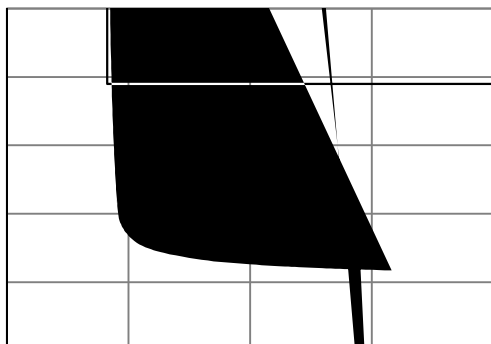
96

38

W

Junction & Storage Temperature Range

-55 to 150



Electrical Characteristics (@ T_j = 25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = -250 A, V _{GS} = 0V	-100			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -80V, V _{GS} = 0V T _j = 55°C			-1.0 -5.0	A
Gate-Body Leakage Current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = -250 A	-1.0	-2.0	-3.0	V
Static Drain-Source ON-Resistance	R _{DS(ON)}	V _{GS} = -10V, I _D = -15A		37	50	m
		V _{GS} = -4.5V, I _D = -10A		50	66	m
Forward Transconductance	g _{FS}	V _{DS} = -5V, I _D = -15A		30		S
Diode Forward Voltage	V _{SD}	I _S = -1A, V _{GS} = 0V		-0.7	-1.0	V
Diode Continuous Current	I _S	T _C = 25°C			-96	A

DYNAMIC PARAMETERS ⁽⁵⁾						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = -50V, f = 1MHz		1412		pF
Output Capacitance	C _{oss}			222		pF
Reverse Transfer Capacitance	C _{rss}	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		2.6		pF
Gate Resistance	R _g			10.2		

SWITCHING PARAMETERS ⁽⁵⁾						
Total Gate Charge (@ V _{GS} = -10V)	Q _g	V _{GS} = 0 to -10V V _{DS} = -50V, I _D = -15A		20		nC
Total Gate Charge (@ V _{GS} = -6.0V)	Q _g			12.6		nC
Gate Source Charge	Q _{gs}			6.4		nC
Gate Drain Charge	Q _{gd}			3.3		nC
Turn-On DelayTime	t _{D(on)}			10.7		ns
Turn-On Rise Time	t _r	V _{GS} = -10V, V _{DS} = -50V		56		ns
Turn-Off DelayTime	t _{D(off)}	R _L = 3.3 , R _{GEN} = 6		45		ns
Turn-Off Fall Time	t _f			81		ns
Body Diode Reverse Recovery Time	t _{rr}	I _F = -15A, dI _F /dt = -100A/ s		51		ns
Body Diode Reverse Recovery Charge	Q _{rr}	I _F = -15A, dI _F /dt = -100A/ s		130		nC

Thermal Performance

Parameter	Symbol	Typ.	Max.	Unit
Thermal Resistance, Junction-to-Ambient	R _{JA}	47	56	°C/W

Typical Electrical & Thermal Characteristics

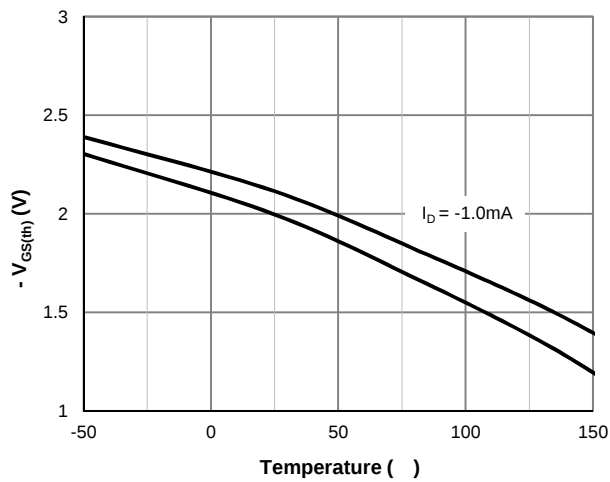
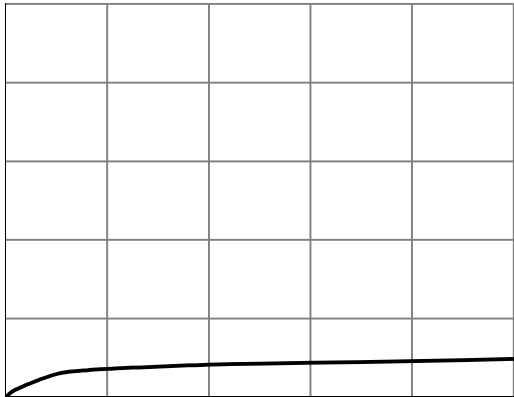
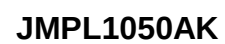


Figure 5: $V_{GS(th)}$ vs. Junction Temperature

Typical Electrical & Thermal Characteristics

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TO-252-3L Package Information

