

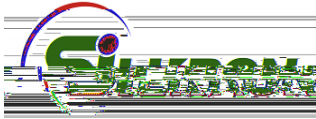
Main Product Characteristics:

Features and Benefits

Description:

Absolute Max Rating:

Symbol	Parameter	Max.	Units
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Thermal Resistance

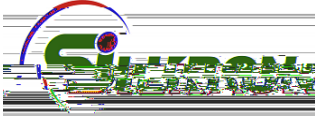
Symbol	Characterizes	Typ.	Max.	Units
R_A	Junction-to-Ambient		140	/W

Electrical Characterizes @ $T_A=25$ unless otherwise specified

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	20			V	$V_{GS} = 0V, I_D$
$R_{DS(on)}$	Static Drain-to-Source on-resistance		22	30	m	$V_{GS}=4.5V, I_D = 2A$
			27	40	m	$V_{GS}=2.5V, I_D = 1A$
$V_{GS(th)}$	Gate threshold voltage	0.4		1	V	$V_{DS} = V_{GS}, I_D$
I_{DSS}	Drain-to-Source leakage current			1		$V_{DS} = 20V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source forward leakage			± 100	nA	$V_{GS} = \pm 12V, V_{DS} = 0V$
Q_g	Total gate charge		4.0		nC	$I_D = 3.6A,$ $V_{DS} = 10V,$ $V_{GS} = 4.5V$
Q_{gs}	Gate-to-Source charge		0.65			
Q_{gd}	Gate-to-Drain("Miller") charge		1.5			
$t_{d(on)}$	Turn-on delay time		7		ns	$V_{GS} = 4.5V, V_{DD} = 20V,$ $R_{GEN} = 3$ $R_L = 10$
t_r	Rise time		10.4			
$t_{d(off)}$	Turn-Off delay time		12.9			
t_f	Fall time		3.2			
C_{iss}	Input capacitance		304		pF	$V_{GS} = 0V$ $V_{DS} = 20V$ 1MHz
C_{oss}	Output capacitance		46			
C_{rss}	Reverse transfer capacitance		38			

Source-Drain Ratings and Characteristics

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)			3.3	A	MOSFET symbol showing the



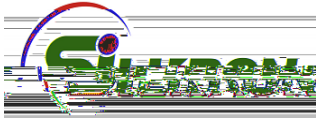
Test Circuits and Waveforms

EAS Test Circuit:

Gate Charge Test Circuit:

Switching Time Test Circuit:

Switching Waveforms:



Typical Electrical and Thermal Characteristics

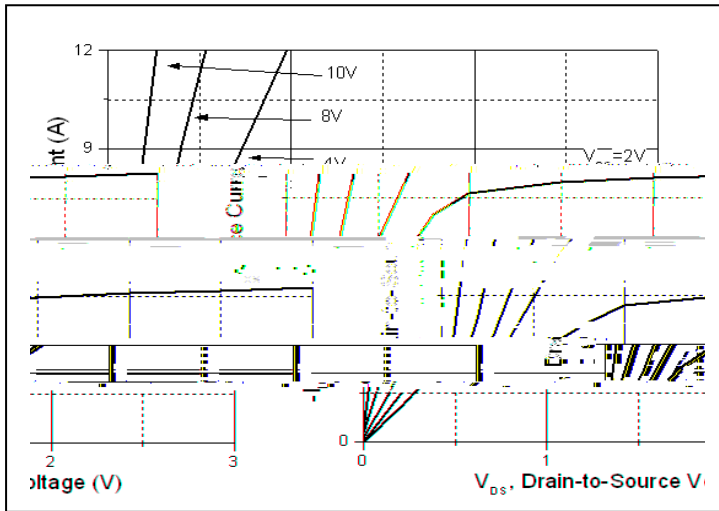


Figure1. Typical Output Characteristics

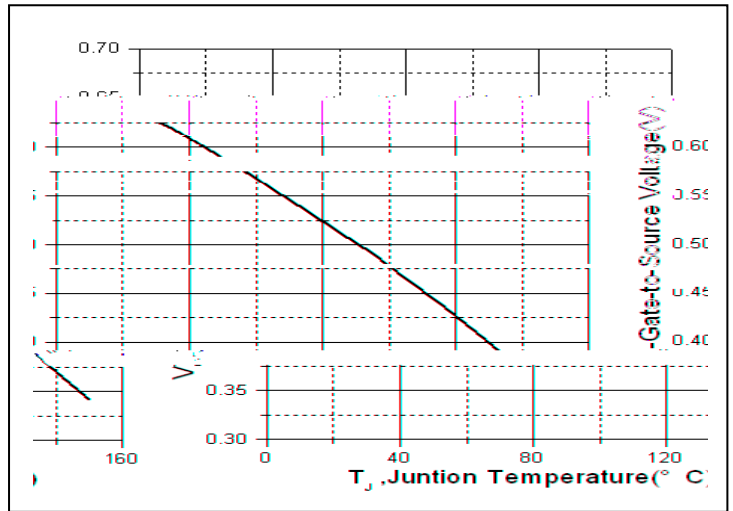


Figure2. Normalized $V_{GS(th)}$ vs. Junction Temperature

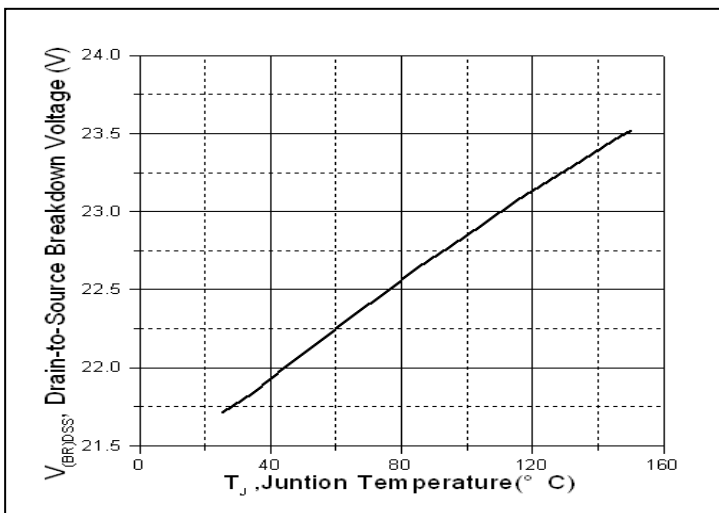


Figure3. Drain-to-Source Breakdown Voltage vs. Junction Temperature

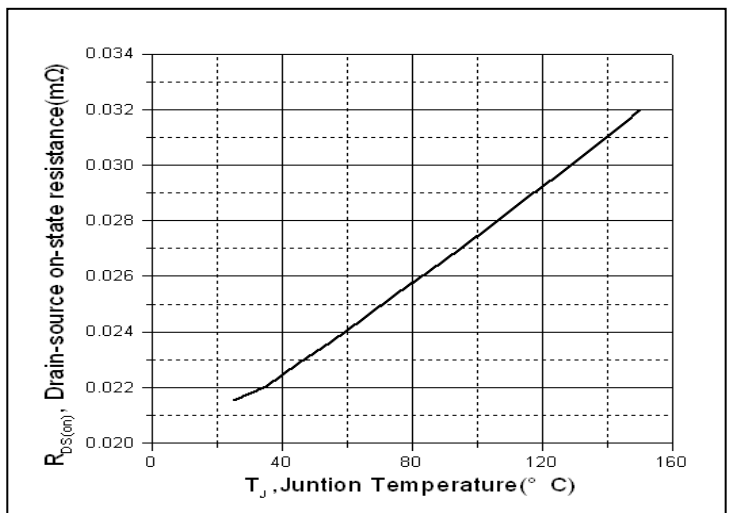


Figure4. Normalized On-Resistance vs. Junction Temperature

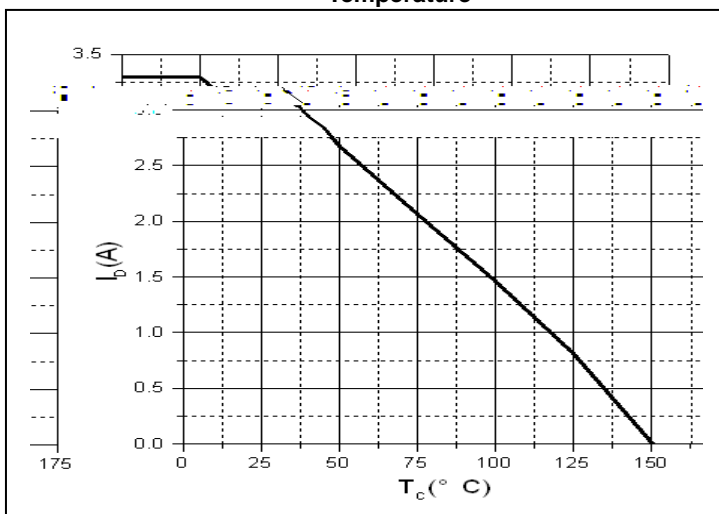


Figure5. Drain Current vs. Case Temperature

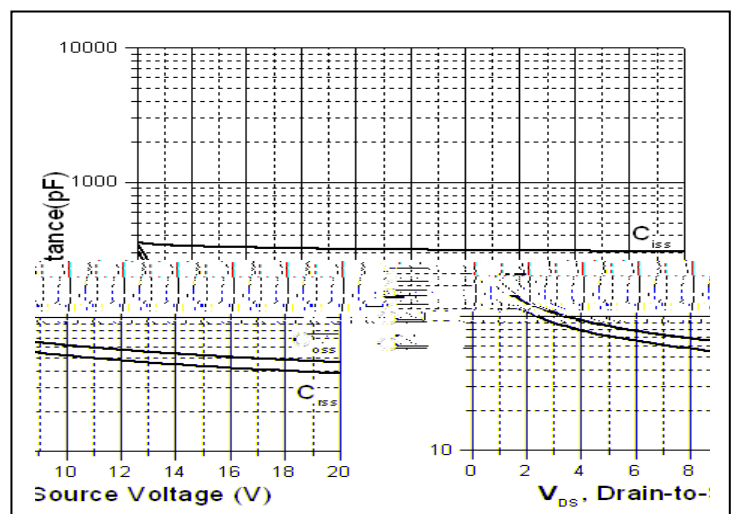
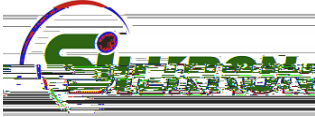
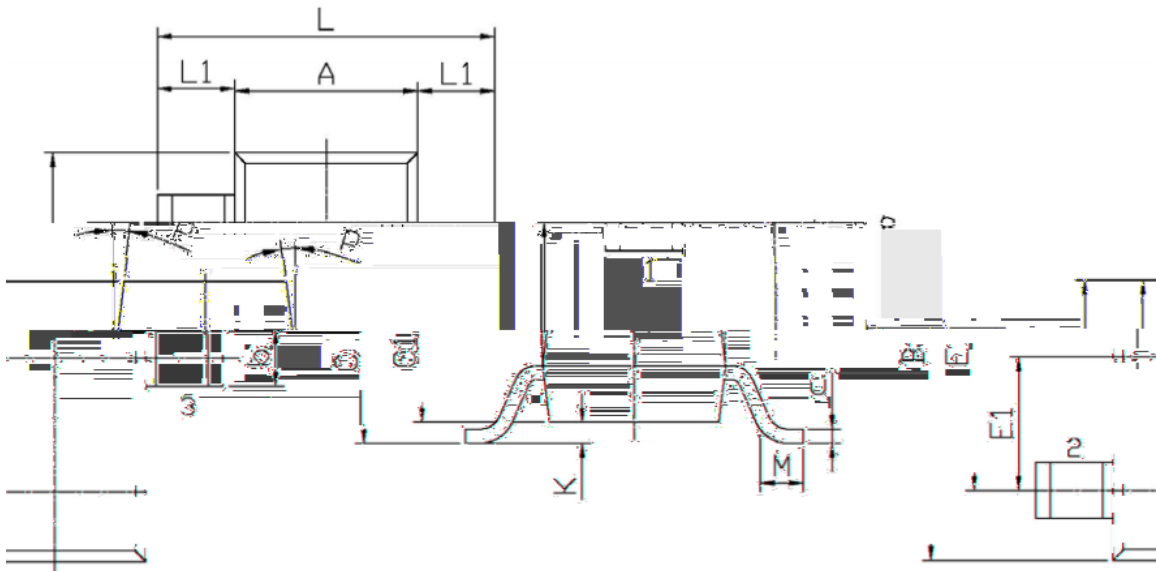


Figure6. Capacitance

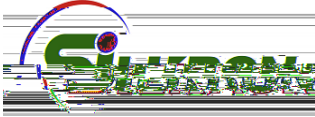


Mechanical Data

SOT-23 Package Outline(Unit:mm)



Symbol	Dimensions in Millimeter		Symbol	Dimensions in Millimeter	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30 Max	
L1	0.45	0.65	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20 Min	
E1	0.85	1.05	P	7°	
b	0.35	0.55			



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