SOT-23 ҂Ҍ Ь P ڏ ʃ ѿ Ӡ ٦

S- CHANNEL MOSFET in a SOT-23 Plastic Package.

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Ultra Low on-resistance. fast switching.Low on voltage, HF Product.

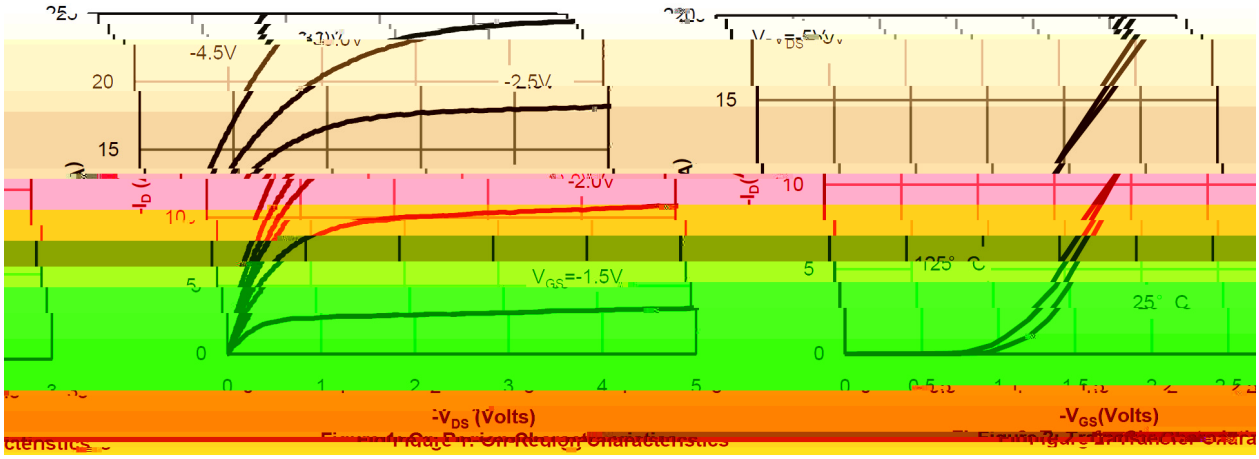
/ Absolute Maximum Ratings(Ta=25)

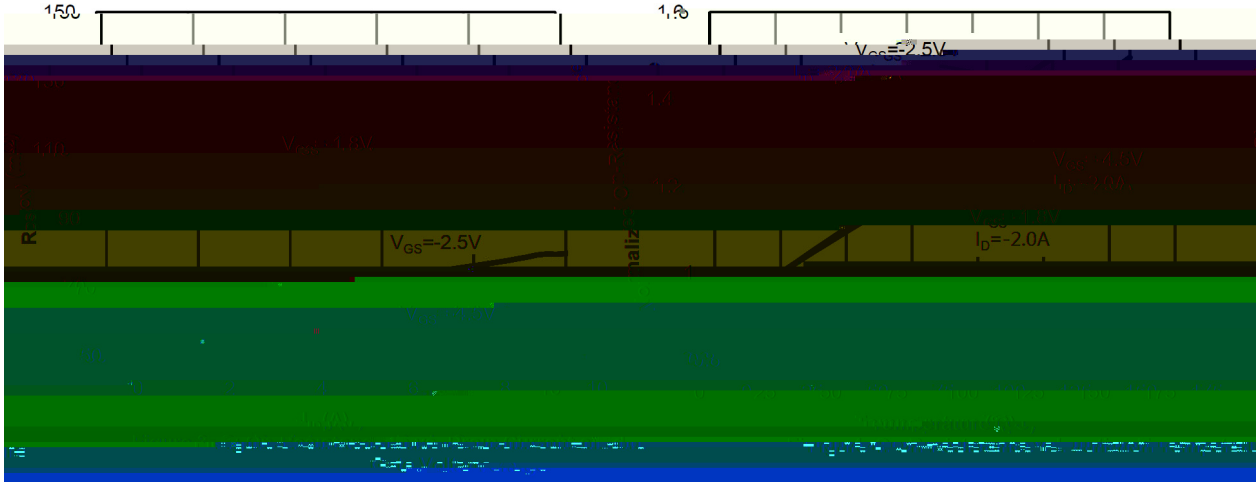
v Ѭ Parameter		ϟ N Symbol	Ѭ Ө Rating	D Ч Unit
Drain–Source Voltage		V_{DSS}	-20	V
Gate–Body Leakage Voltage		V_{GSS}	±12	V
Drain Current – Continuous		I_D	-3	A
Pulsed Drain Current		I_{DM}	-15	A
Power Dissipation		P_D	1.4	W
Operating and Storage Temperature Range		T_J,T_{STG}	-55 150	
Maximum Junction-to-Ambient	t 10s	R JA	90	/W
Maximum Junction-to-Ambient	Steady-State		125	/W
Maximum Junction-to-Lead	Steady-State	R JL	80	/W

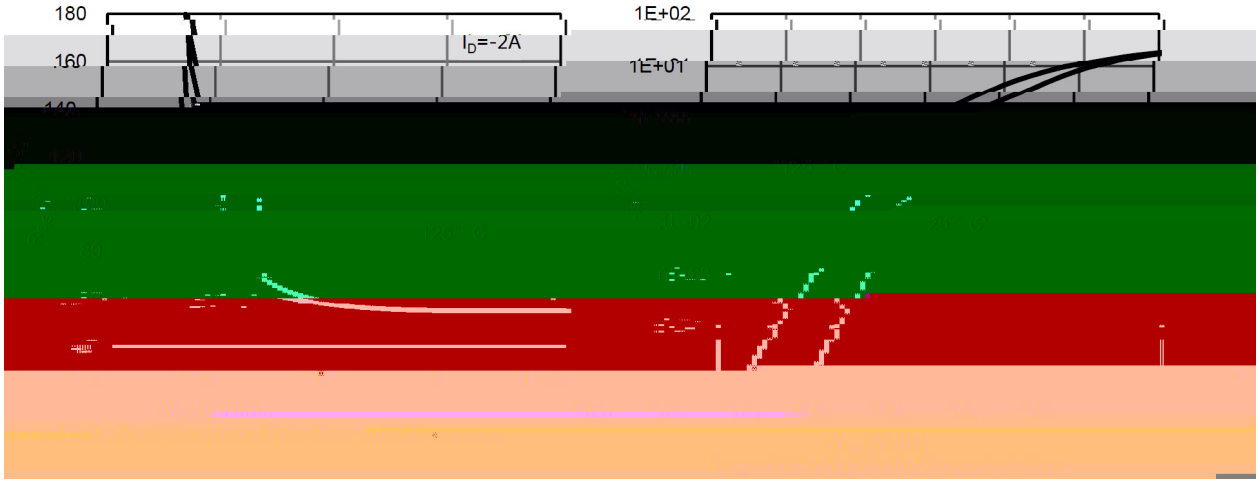
/ Electrical Characteristics(Ta=25)

v Ѭ Parameter	ϟ N Symbol	ӏӏ ː ˆ ɬ Test Conditions	ѡ ɳ Ө Min	Ɛ ʒ Ө Typ	ѡ ᶻ Ө Max	D Ч Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V I_D=-250μA	-20	-23		V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-0.4		-1.0	V
Static Drain–Source On–Resistance	$R_{DS(on)}$	V_{GS}=-4.5V I_D=-2A		56	60	mΩ
		V_{GS}=-2.5V I_D=-2A		70	76	mΩ
		V_{GS}=-1.8V I_D=-2A		93	110	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V V_{GS}=0V			-1.0	μA
Gate-Body leakage current	I_{GSS}	V_{GS}=±12V V_{DS}=0V			±100	nA
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=-1A T_J=25			-1.2	V
Gate resistance	R_g	f=1MHz		7.2		Ω
Input Capacitance	C_{iss}	V_{DS}=-10V V_{GS}=0V f=1.0MHz		760		pF
Output Capacitance	C_{oss}			170		
Reverse Transfer Capacitance	C_{rss}			230		
Total Gate Charge	Q_g	V_{DS}=-10V V_{GS}=-4.5V I_D=-3A		8.7		nC
Gate-to-Source Charge	Q_{gs}			1.5		
Gate-to-Drain Charge	Q_{gd}			2.3		
Turn–On Delay Time	$t_{d(on)}$	V_{DS}=-10V V_{GS}=-4.5V R_L=3.3Ω R_{GEN}=6Ω		7.3		ns
Turn–On Rise Time	t_r			25		
Turn–Off Delay Time	$t_{d(off)}$			54		
Turn–Off Fall Time	t_f			55		

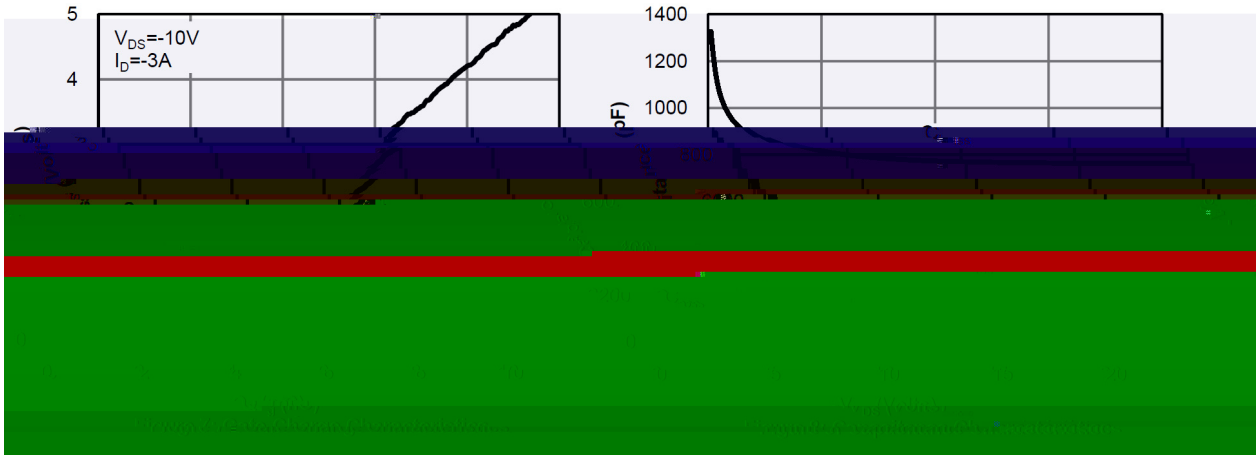
/ Electrical Characteristic Curve







/ Electrical Characteristic Curve



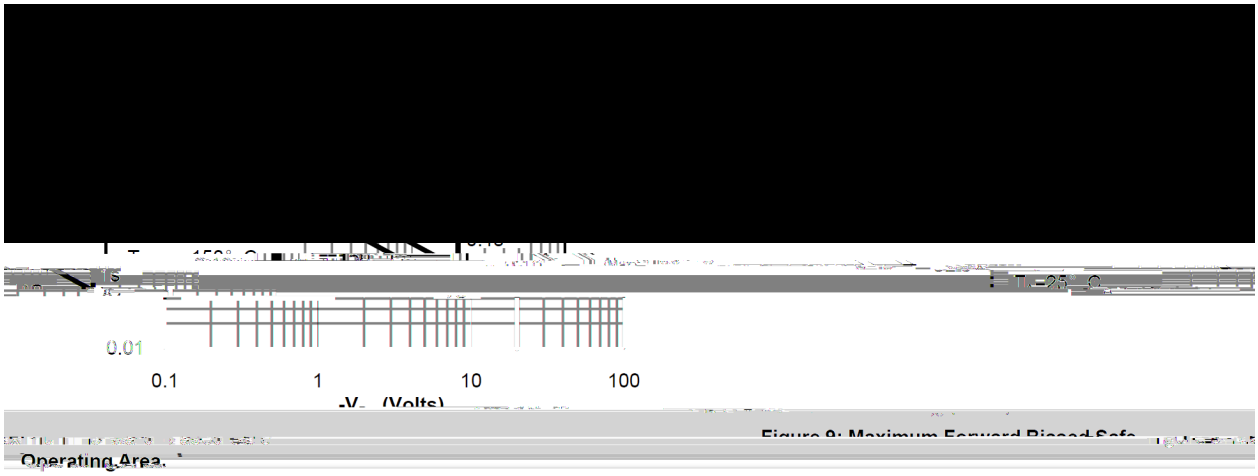
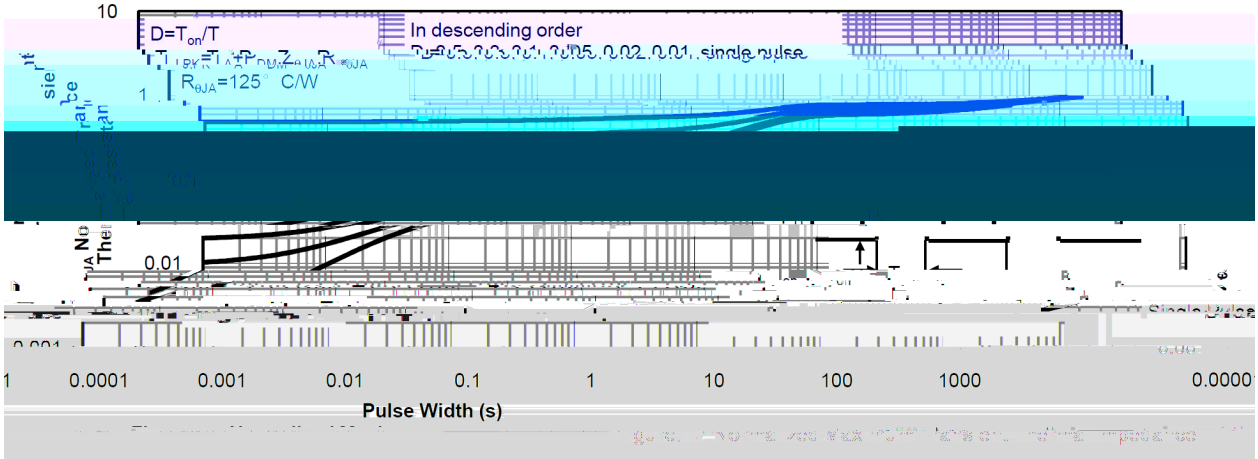
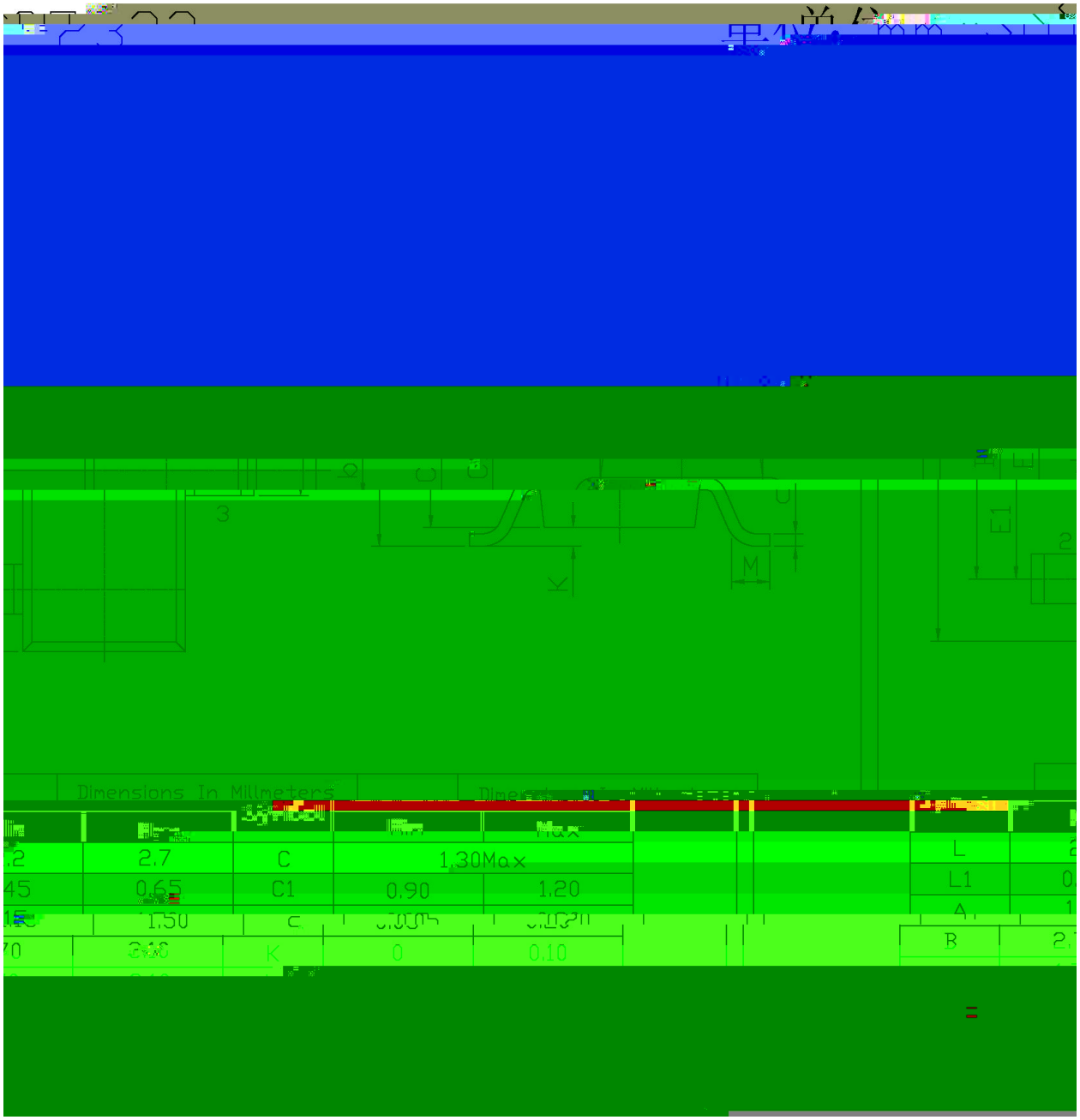
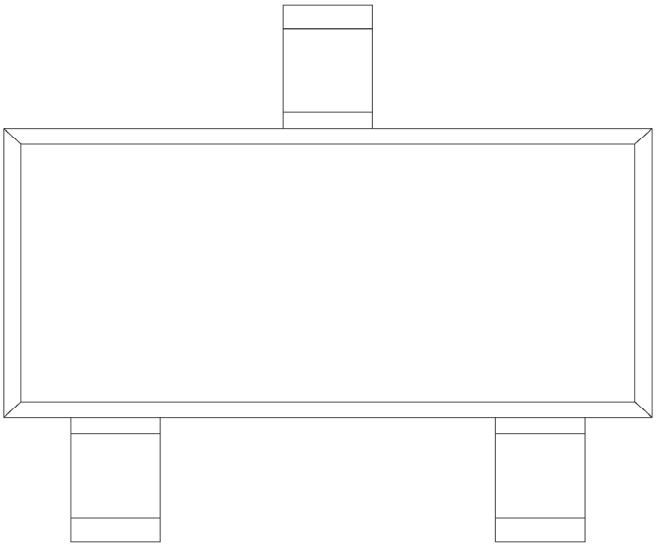


Figure 9: Maximum Forward Biased Safe Operating Area.



/ Package Dimensions





( ) / Temperature Profile for IR Reflow Soldering(Pb-Free)

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1 Ĺ ♬ □ ỷ 150 Ḱ 180 ł ı `H ڑ 60 Ḱ 90sec;

2 Š Ө □ ỷ 245 ° 5 ł ı `H ڑ `Y ﾊ ㎞ 5 ° 0.5sec;

3 ì ˙ ﾘ ¸ ɔ ﻩ ỷ ㎞ 2 Ḱ 10 ł /sec.

Note:

1.Preheating:150~180 ł , Time:60~90sec.

2.Peak Temp.:245 ° 5 ł , Duration:5 ° 0.5sec.

3. Cooling Speed: 2~10 ł /sec.

/ Resistance to Soldering Heat Test Conditions

□ ỷ χ 260 ° 5 ł `H ڑ χ 10 ° 1 sec. Temp.:260 ° 5 ł Time:10 ° 1 sec

/ Packaging SPEC.

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Package Type	Units	Dimension	(unit mm³)