

Rev.A Mar.-2025

SOT-23                    MOS  
N- CHANNEL MOSFET in a SOT-23 Plastic Package.

$V_{DS}=600V$ ;  $I_D=80mA$

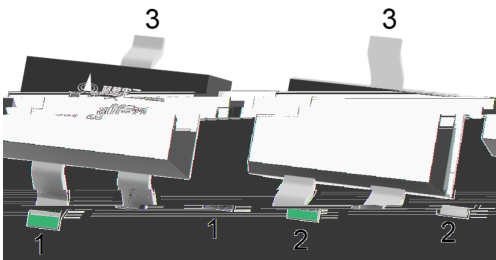
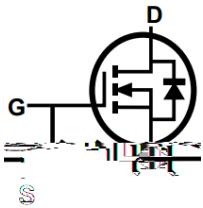
$R_{DS(on)1}@10V$  100

$R_{DS(on)2}@4.5V$  290

ESD Protected

HF Product.

Motor Control, Backlighting, DC-DC Converters, Power Management Functions.



PIN 1 G                    PIN 2 S                    PIN 3 D

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	600	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Drain Current – Continuous	$I_D$	80	mA
Pulsed Drain Current	$I_{DM}$	200	mA
Power Dissipation	$P_D$	0.7	W
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to 150	
Junction-to-Ambient	$R_{JA}$	174	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=250\mu A$	600	670		V
Gate Threshold Voltage	$V_{GS(th)1}$	$V_{DS}=V_{GS}$ $I_D=8\mu A$	1.5		2.6	V
	$V_{GS(th)2}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.5		3.0	V
Static Drain–Source On–Resistance	$R_{DS(on)1}$	$V_{GS}=10V$ $I_D=60mA$		72	100	
	$R_{DS(on)2}$	$V_{GS}=4.5V$ $I_D=60mA$		73.5	290	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=600V$ $V_{GS}=0V$			1	$\mu A$
Gate–Body Leakage.	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 10$	$\mu A$
Drain–Source Diode Forward Voltage	$V_{SD}$	$I_S=50mA$ $V_{GS}=0V$			1.5	V
Input Capacitance	$C_{iss}$	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		25		pF
Output Capacitance	$C_{oss}$			5.5		
Reverse Transfer Capacitance	$C_{rss}$			1.5		
Total Gate Charge	$Q_g$	$V_{GS}=10V$ $V_{DS}=300V$ $I_D=0.01A$		1.8		nC
Gate Source Charge	$Q_{gs}$			0.35		
Gate Drain Charge	$Q_{gd}$			1.1		

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=300V$ $I_D=60mA$ $R_{GEN}=3.3$		7.3		ns
Turn-On Rise Time	$t_r$			11		
Turn-Off Delay Time	$t_{d(off)}$			21		
Turn-Off Fall Time	$t_f$			159		
Reverse Recovery Time	$T_{rr}$	$V_R=300V$ $I_F=60Ma$ $Di/dt=100$		195		ns
Reverse Recovery Charge	$Q_{rr}$			32.5		nC

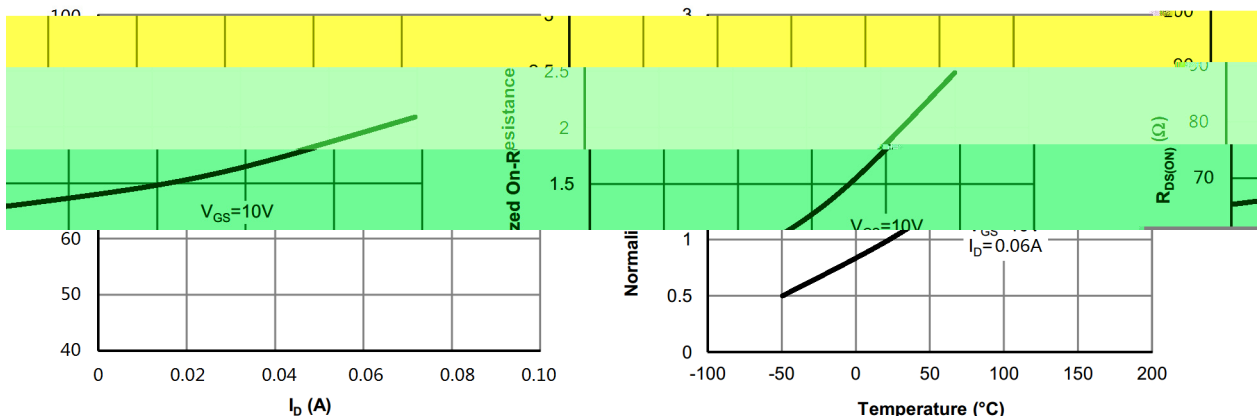
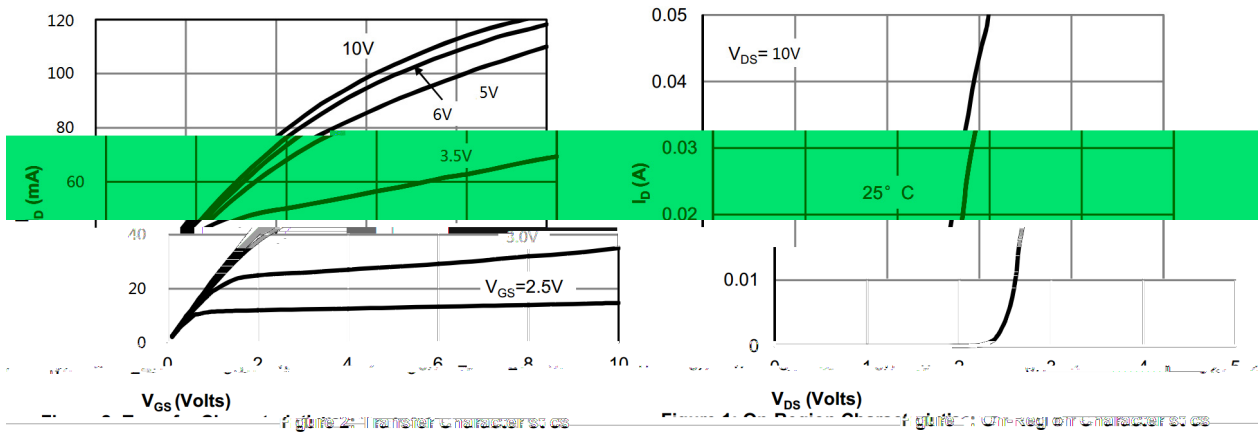
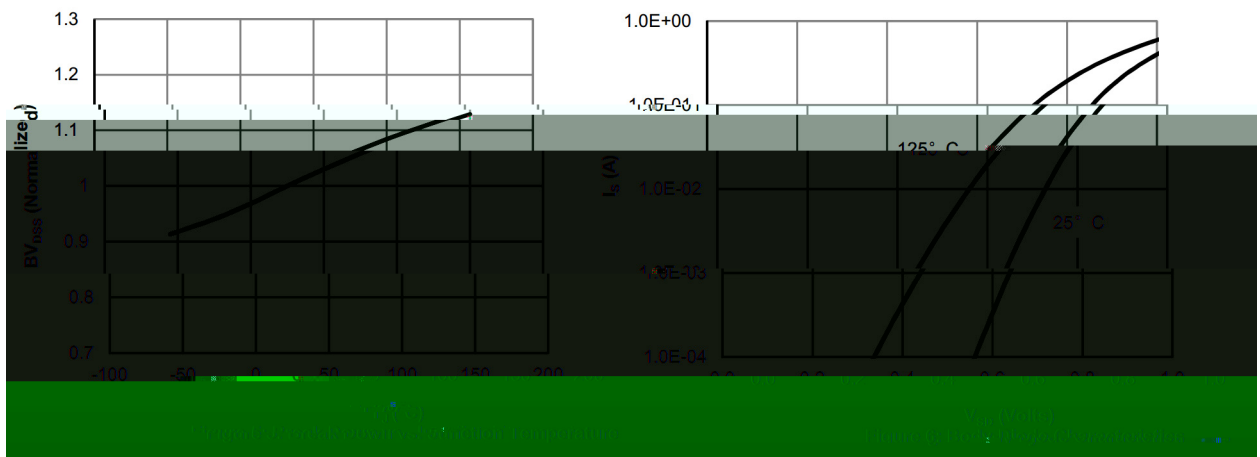


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature



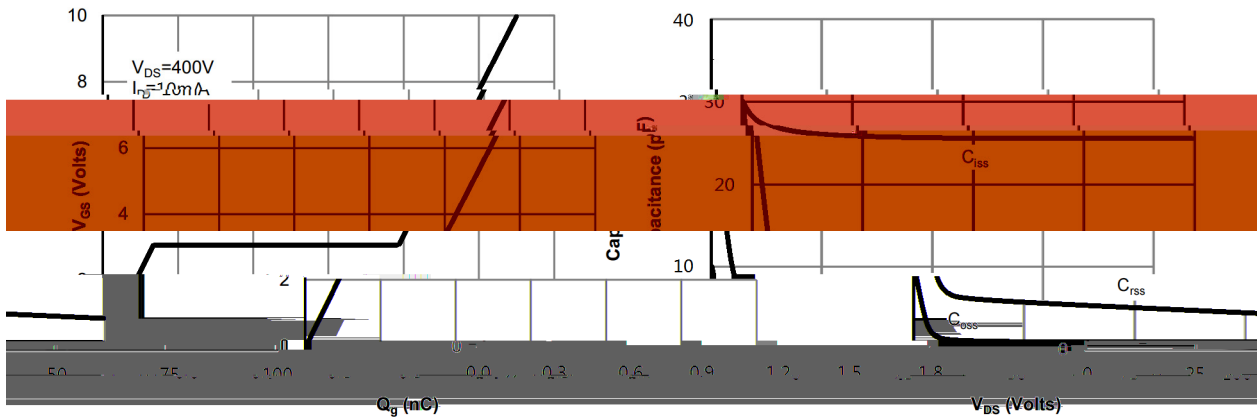


Figure 7: Gate Charge Characteristics

Figure 8: Capacitance Characteristics

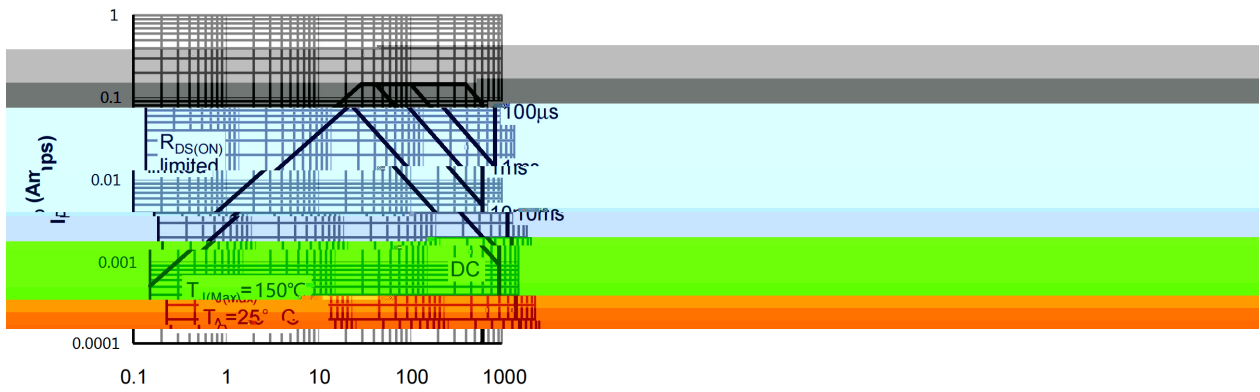


Figure 9: Maximum Forward Bias Safe Operating Area

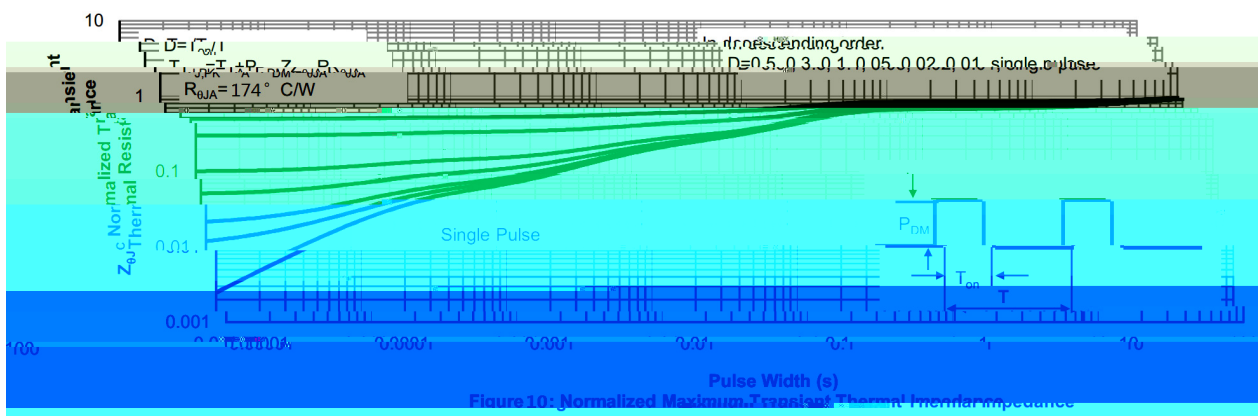
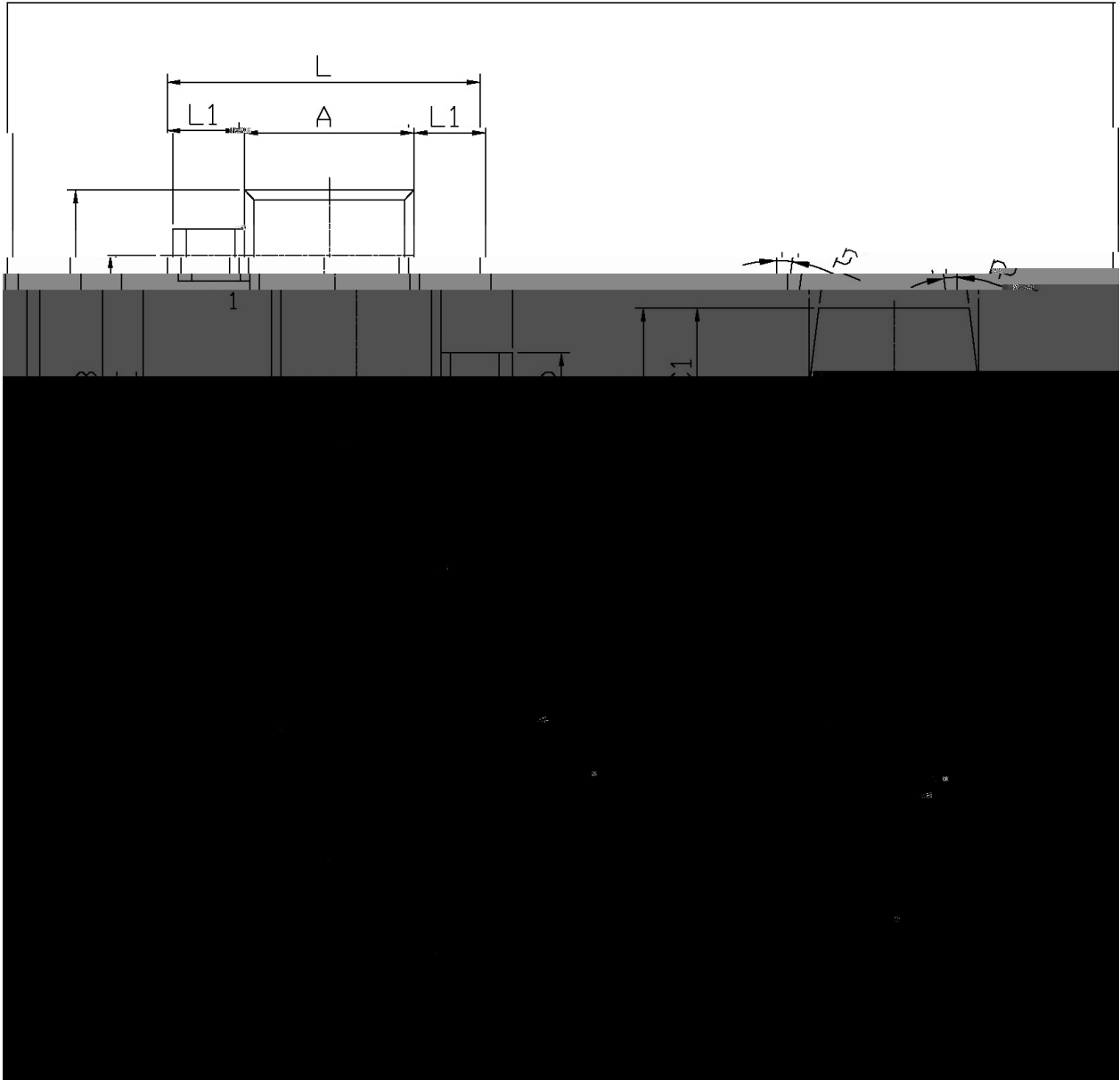
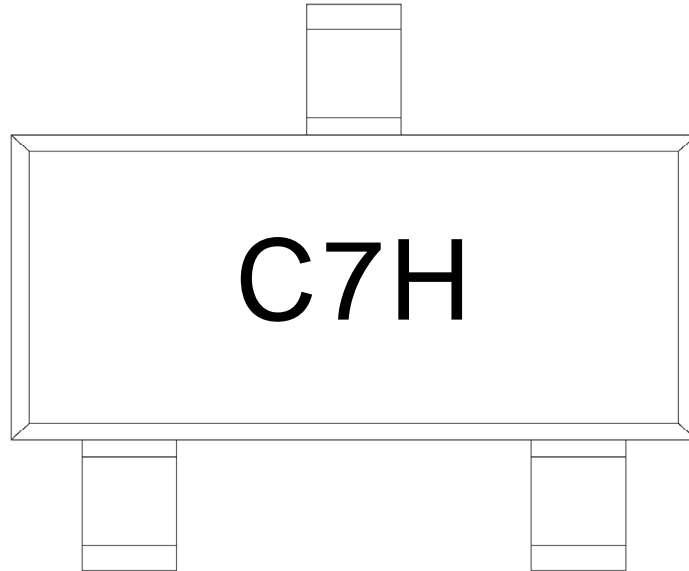


Figure 10: Normalized Maximum Transient Thermal Impedance

SOT-23

单位: mm





H

C7

Note:

H: Company Code

C7: Product Type Code

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


**Note:**

- |   |     |     |    |          |   |
|---|-----|-----|----|----------|---|
| 1 | 150 | 180 | 60 | 90sec;   | 1.Preheating:150~180 , Time:60~90sec.   |
| 2 | 245 | 5   | 5  | 0.5sec;  | 2.Peak Temp.:245 5 , Duration:5 0.5sec. |
| 3 |     |     | 2  | 10 /sec. | 3. Cooling Speed: 2~10 /sec.            |

260	5	10	1 sec.	Temp.:260±5	Time:10±1 sec
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/ REEL

Package Type	Units					Dimension (unit mm <sup>3</sup> )		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
	/	/	/	/	/			