

SOT23-6

Complementary Enhancement MOSFET in a SOT23-6 Plastic Package.

N-channel

$V_{DS}(V)=20V$

$I_D=5.0A$

$R_{DS(ON)}@4.5V<30m\Omega$ (TYP. 22mR)

$R_{DS(ON)}@2.5V<60$ (TYP. 30mR)

HF Product.

P-channel

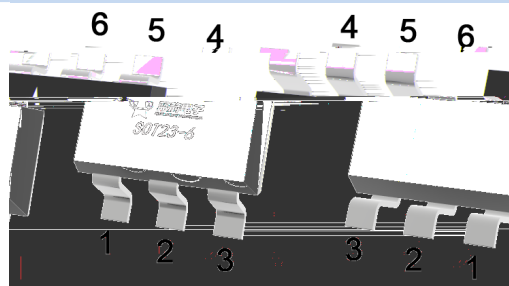
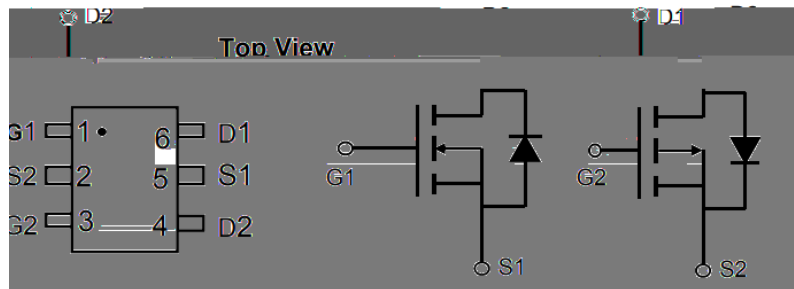
$V_{DS}(V)=-20V$

$I_D=-2.8A$

$R_{DS(ON)}@-4.5V<100m\Omega$ (TYP. 78mR)

$R_{DS(ON)}@-2.5V<150m\Omega$ (TYP. 107mR)

Power Management in Notebook computer, Portable Equipment and Battery powered systems.

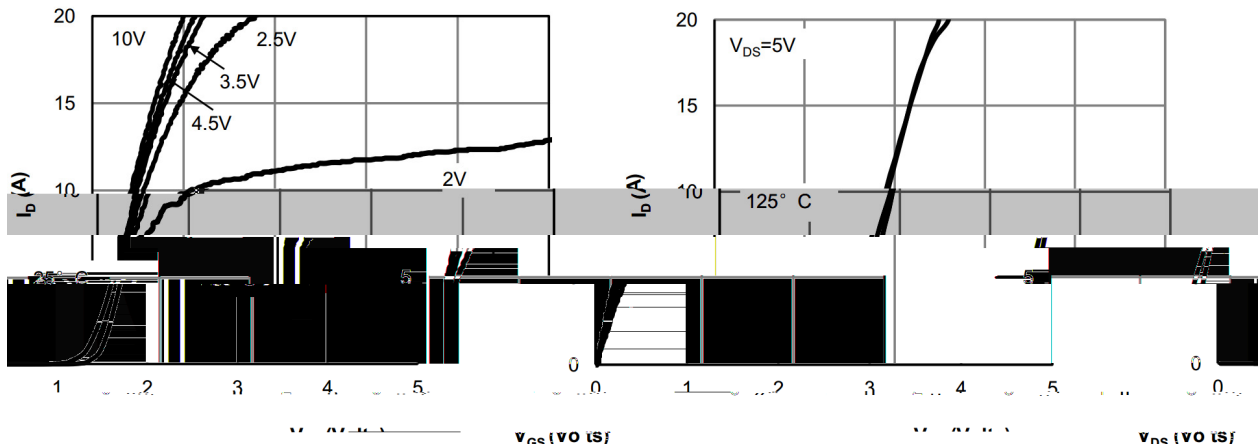


PIN1	G1	PIN 2	S2	PIN 3	G2
PIN 4	D2	PIN 5	S1	PIN 6	D1

See Marking Instructions.

Parameter	Symbol	Rating		Unit
		N-channel	P-channel	
Drain-Source Voltage	V_{DS}	20	-20	V
Gate-Source Voltage	V_{GS}	± 12		V
Continuous Drain Current	I_D	5.0	-2.8	A
Pulsed Drain Current	I_{DM}	20.4	-11.7	A
Power Dissipation	P_D	1.2	1.2	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150		
Maximum Junction-to-Ambient	R_{JA}	104		/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0$ $I_D=250\mu A$	20	22		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=20V$			1.0	μA
Gate-Body Leakage.	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 100	nA
Static Drain-Source On-Resistance	$R_{DS(on)1}$	$V_{GS}=4.5V$ $I_D=3.0A$		22	30	$m\Omega$
	$R_{DS(on)2}$	$V_{GS}=2.5V$ $I_D=3.0A$		30	60	$m\Omega$
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_D=1.0A$			1.2	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	0.5	0.67	1.0	V
Input Capacitance	C_{iss}	$V_{DS}=15V$ $V_{GS}=0V$ $f=1.0MHz$		340		pF
Output Capacitance	C_{oss}			30		pF
Reverse Transfer Capacitance	C_{rss}			25		pF
Total Gate Charge	$Q_g(10V)$	$V_{GS}=10V$ $V_{DS}=15V$ $I_D=4A$		8.2		nC
Total Gate Charge	$Q_g(4.5V)$			4.3		
Gate Source Charge	Q_{gs}			2		
Gate Drain Charge	Q_{gd}			1.5		
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15A$ $R_{GEN}=3\Omega$ $R_L=3.75\Omega$		2.5		ns
Turn-On Rise Time	t_r			3		
Turn-Off Delay Time	$t_{d(off)}$			30		
Turn-Off Fall Time	t_f			5		



acteristics

Figure 2: Transfer Characteristics

Figure 1: On-Region Characteristics

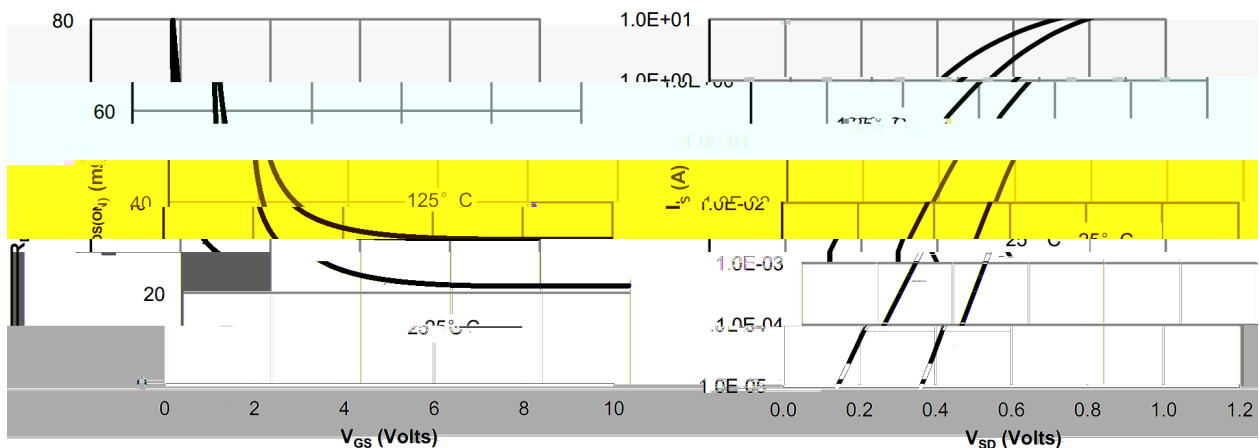
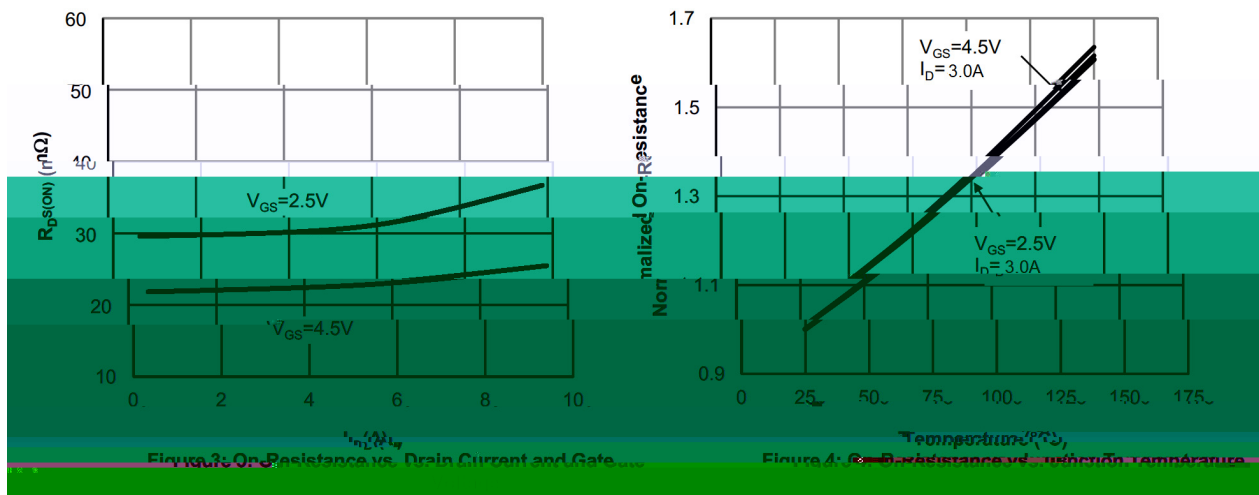
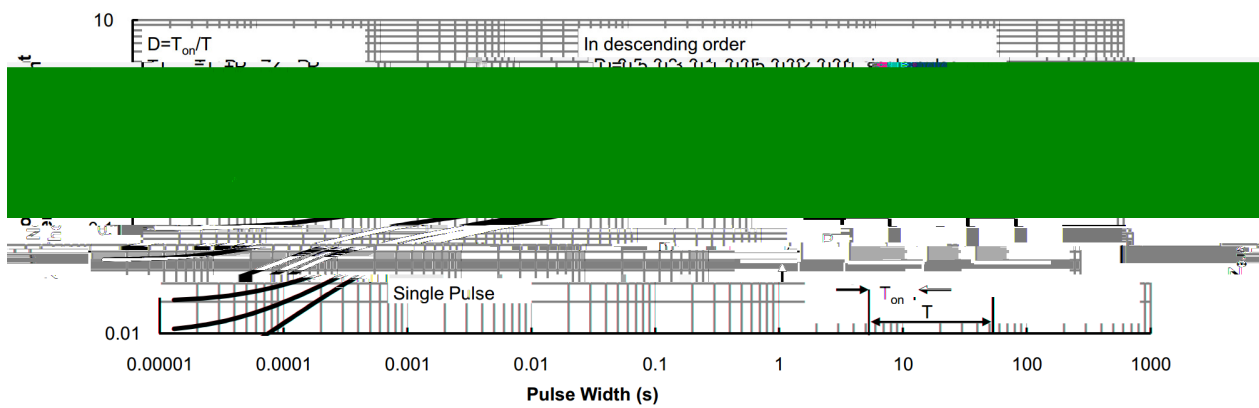
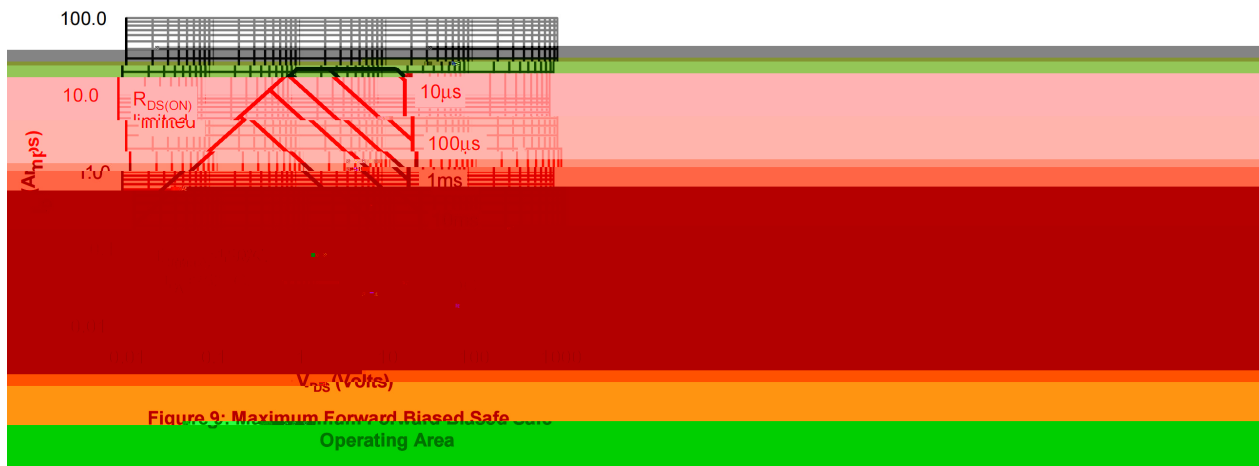
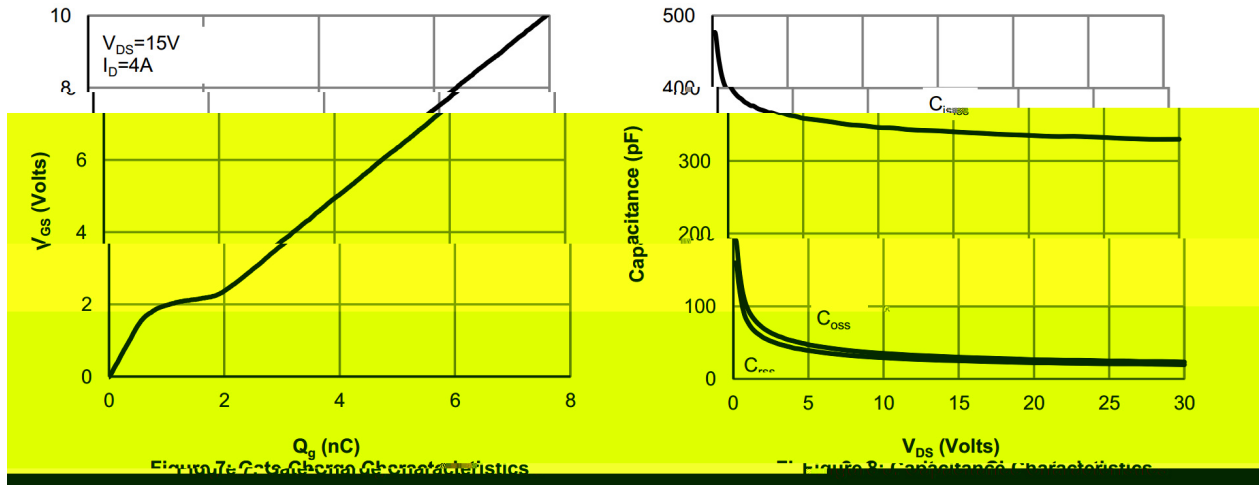
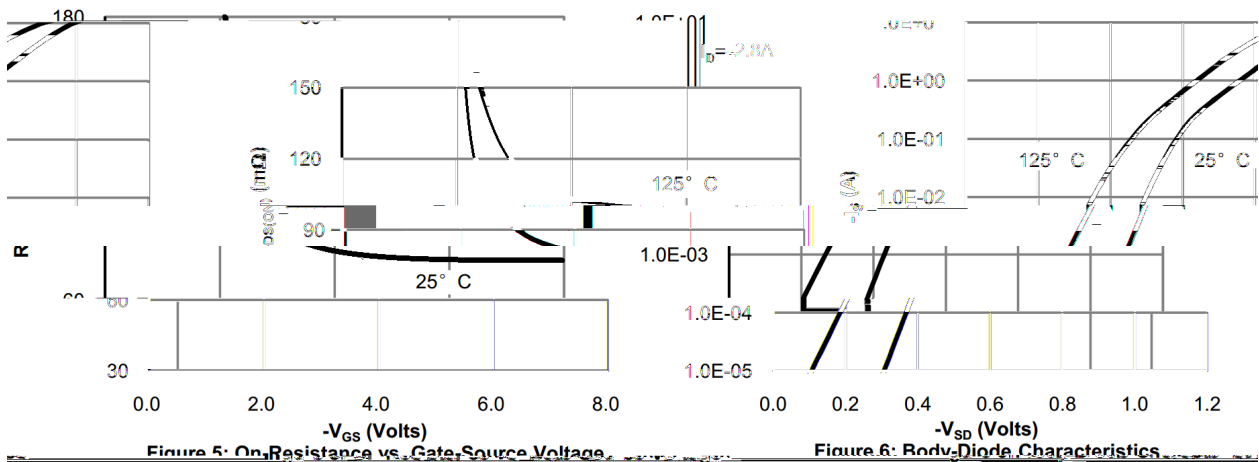
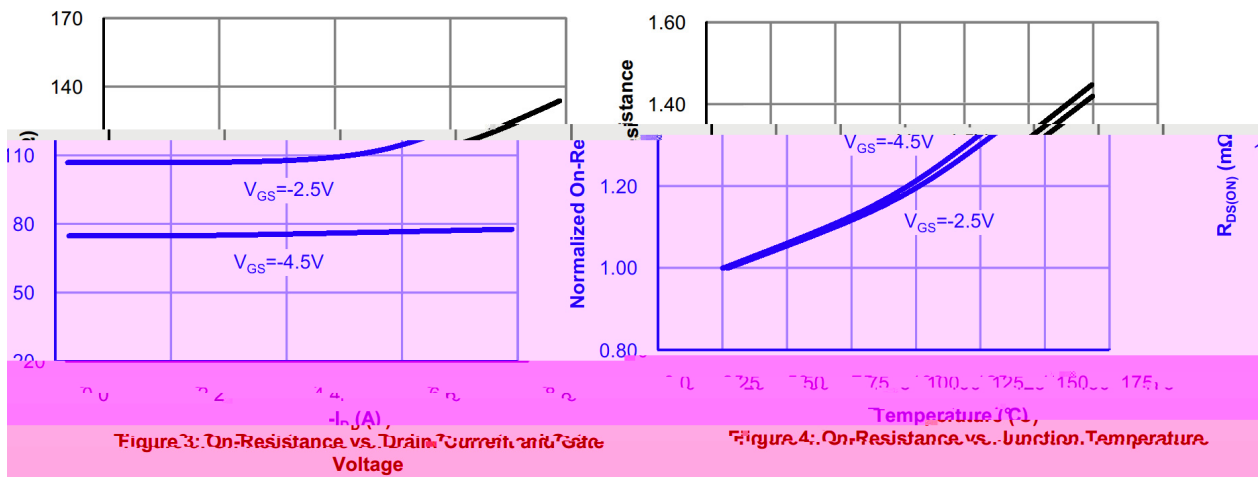
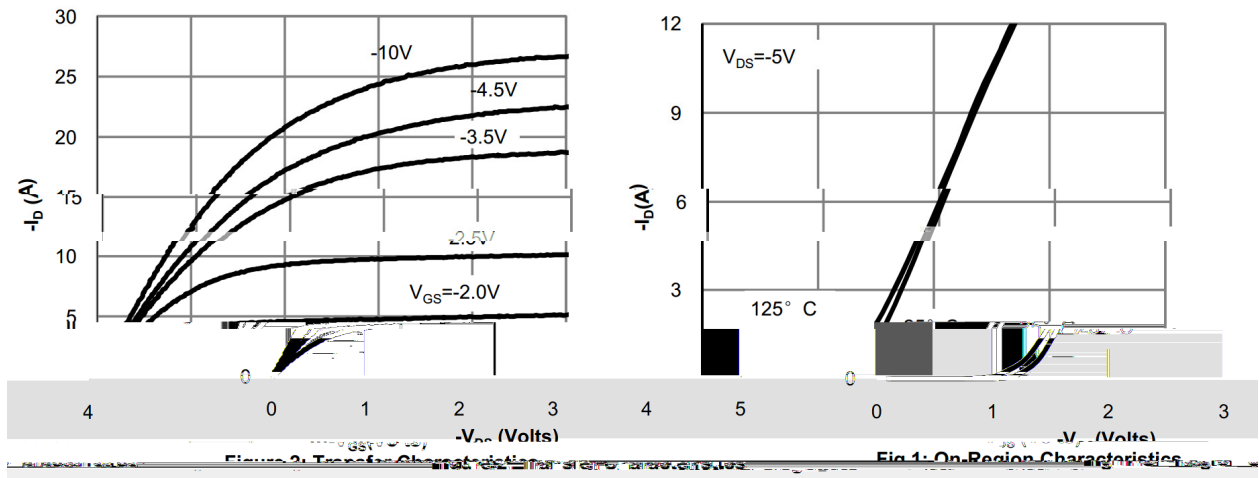


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics



Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-20	-22		V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-0.5	-0.7	-1.0	V
Static Drain–Source On–Resistance	$R_{DS(on)}$	$V_{GS}=-4.5V$ $I_D=-2.8A$		78	100	$m\Omega$
	$R_{DS(on)}$	$V_{GS}=-2.5V$ $I_D=-2.0A$		107	150	$m\Omega$
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-20V$ $V_{GS}=0V$			-1	μA
Gate–Body Leakage	I_{GSS}	$V_{GS}=\pm 12V$ $V_{DS}=0V$			± 0.1	μA
Drain–Source Diode Forward Voltage	V_{SD}	$I_S=-1.0A$ $V_{GS}=0V$			-1.2	V
Input Capacitance	C_{iss}	$V_{DS}=-10V$, $f=1MHz$ $V_{GS}=0V$		330		pF
Output Capacitance	C_{oss}			65		
Reverse Transfer Capacitance	C_{rss}			40		
Total Gate Charge	Q_g	$V_{DS}=-10V$ $V_{GS}=-4.5V$ $I_D=-2.8A$		3.3		nC
Gate-to-Source Charge	Q_{gs}			0.8		
Gate-to-Drain Charge	Q_{gd}			1.5		
Turn–On Delay Time	$t_{d(on)}$	$V_{DS}=-10V$ $V_{GS}=-10V$ $R_L=28\Omega$ $R_{GEN}=3\Omega$		12		ns
Turn–On Rise Time	t_r			5.7		
Turn–Off Delay Time	$t_{d(off)}$			23		
Turn–Off Fall Time	t_f			8.5		



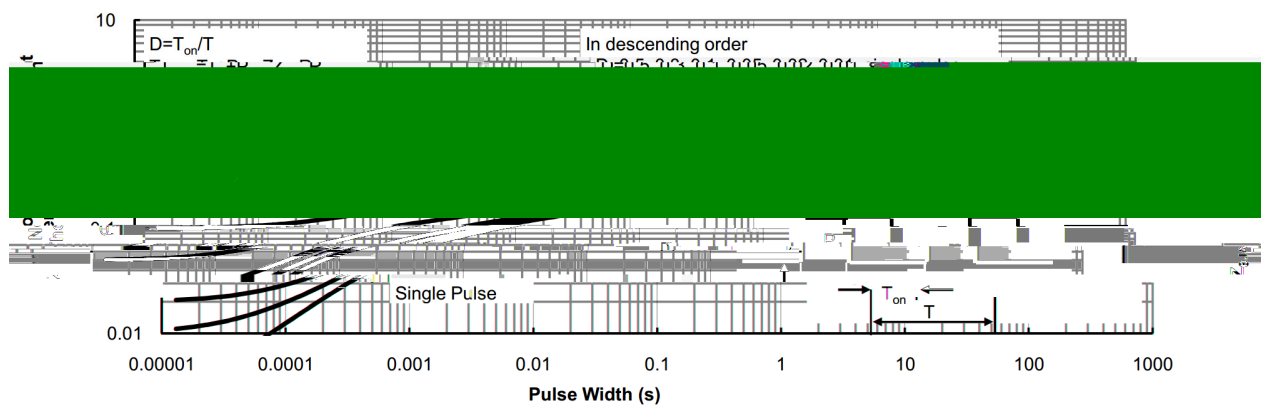
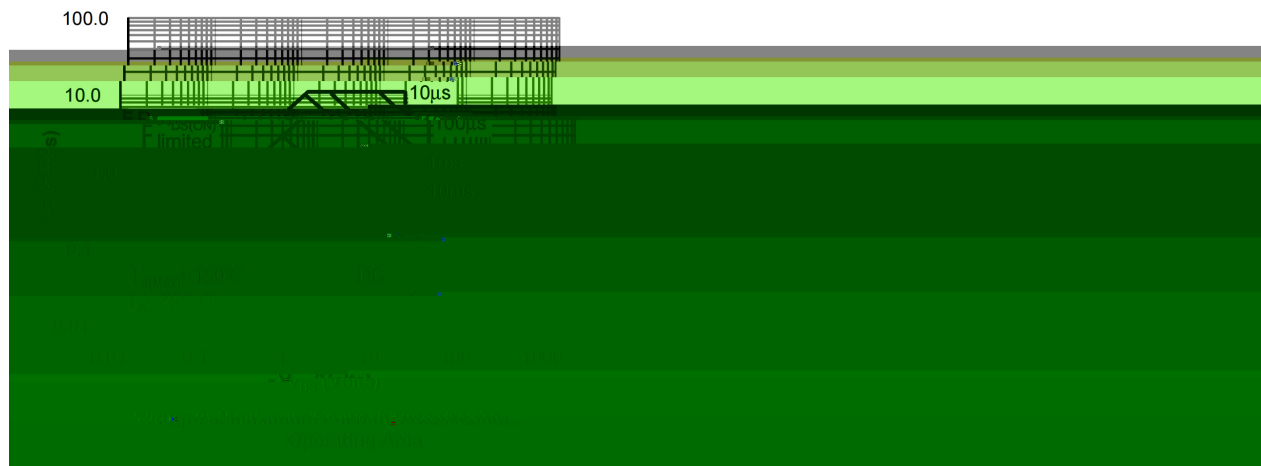
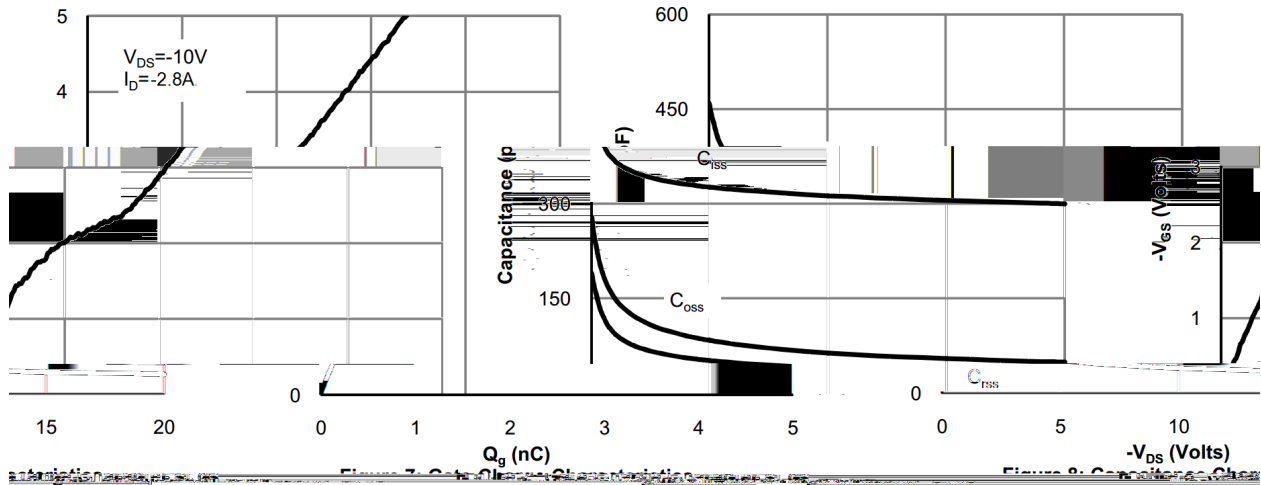
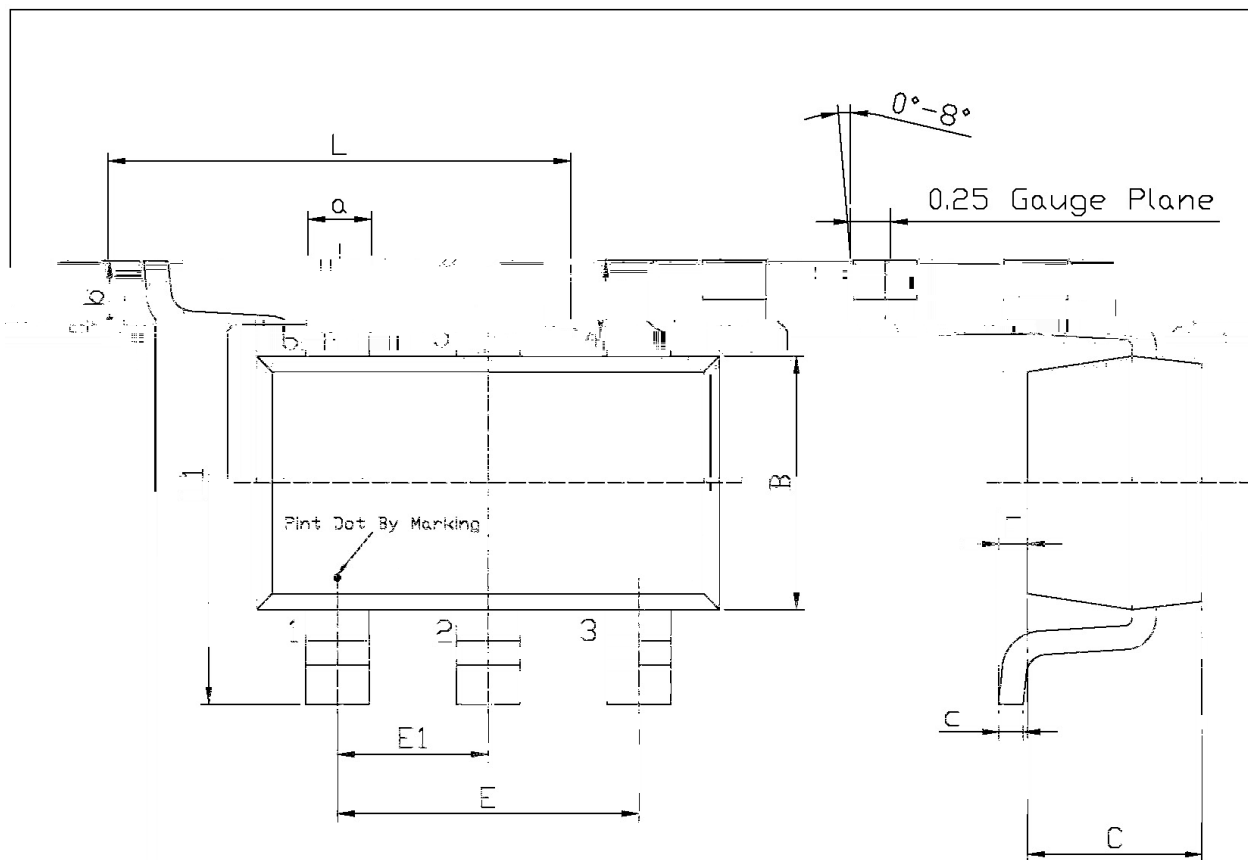


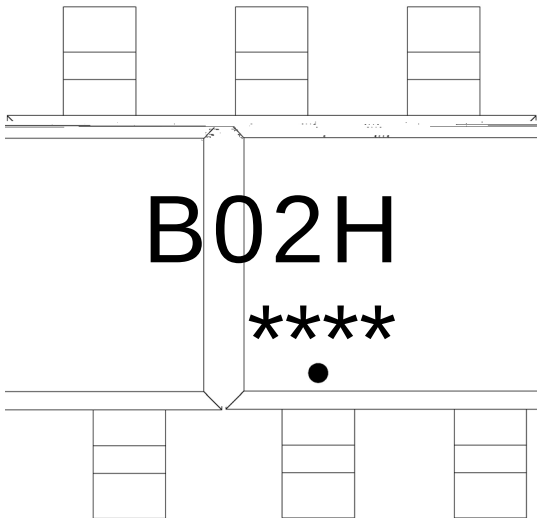
Figure 10: Normalized Maximum Transient Thermal Impedance



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.32	E1	0.85	1.05
B	1.50	1.70	a	0.35	0.50
C	0.90	1.30	c	0.10	0.20
L1	2.60	3.00	b	0.35	0.55
E	1.80	2.00	F	0	0.15

SOT23-6



B02:

H

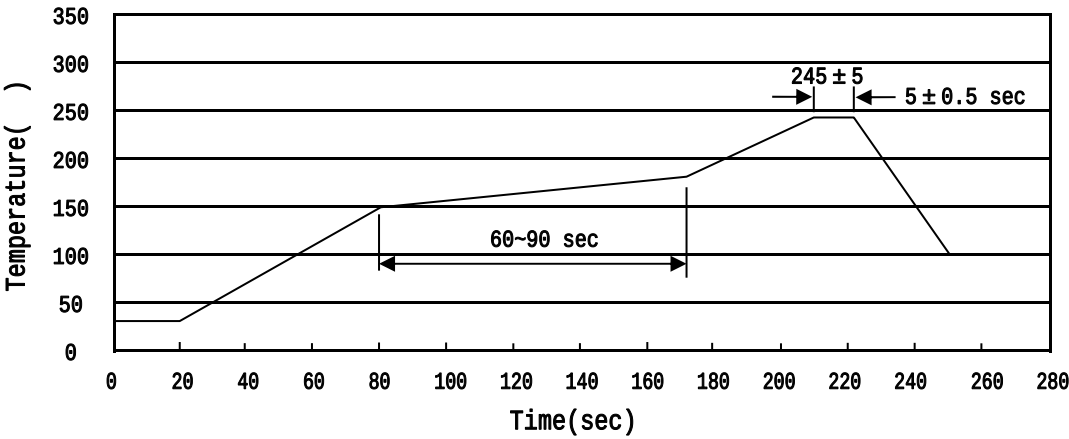
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Note:

B02 Product Type Code

H Company Code

****: Lot No.Code,code change with Lot No



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

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT23-5/6	3,000	10	30,000	4	120,000	7 ×8	210×205×205	445×435×230