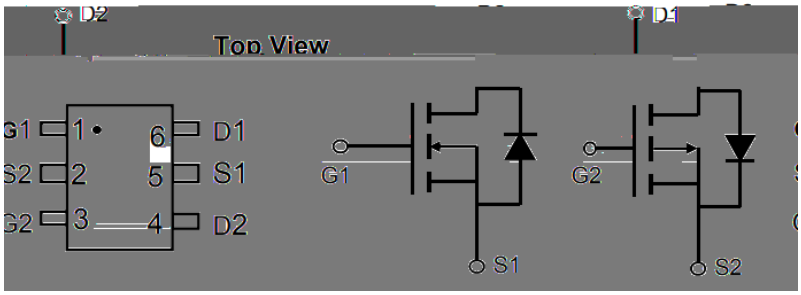
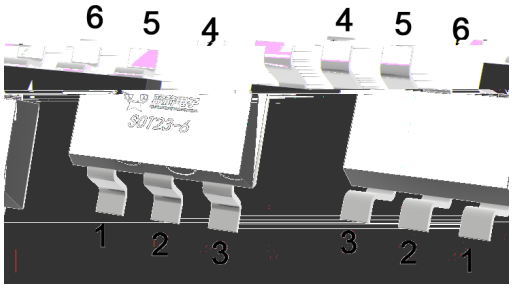
SOT23-6

Complementary Enhancement MOSFET in a SOT23-6 Plastic Package.

N-channel	P-channel
V_{DS}(V)=20V	V_{DS}(V)=-20V
I_D=5.0A	I_D=-2.8A
$R_{DS(ON)}$@4.5V<30mΩ(TYP. 22mR)	$R_{DS(ON)}$@-4.5V<100mΩ(TYP. 78mR)
$R_{DS(ON)}$@2.5V<60(TYP. 30mR)	$R_{DS(ON)}$@-2.5V<150mΩ(TYP. 107mR)
HF Product.	

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



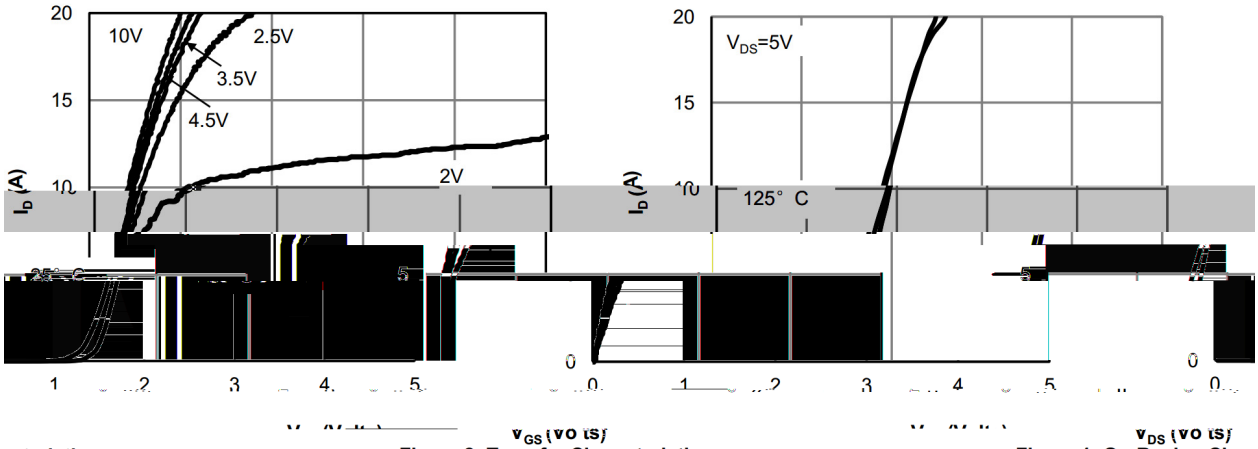


PIN1	G1	PIN 2	S2	PIN 3	G2
PIN 4	D2	PIN 5	S1	PIN 6	D1

See Marking Instructions.

Parameter	Symbol	Rating		Unit
		N-channe	P-channell	
Drain-Source Voltage	V_{DSS}	20	-20	V
Gate-Source Voltage	V_{GSS}	±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_{DSS}	V_{GS}=0	I_D=250μA	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}=±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	mΩ
	$R_{DS(on)2}$	V_{GS}=2.5V	I_D=3.0A		30	60	mΩ
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=250μA	0.5	0.67	1.0	V
Input Capacitance	C_{iss}	V_{DS}=15V f=1.0MHz	V_{GS}=0V		340		pF
Output Capacitance	C_{oss}				30		pF
Reverse Transfer Capacitance	C_{rss}				25		pF
Total Gate Charge	Q_g(10V)	V_{GS}=10V, I_D=4A	V_{DS}=15V,		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 R_{GEN}=3Ω	V_{DS}=15A R_L=3.75Ω		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 Char

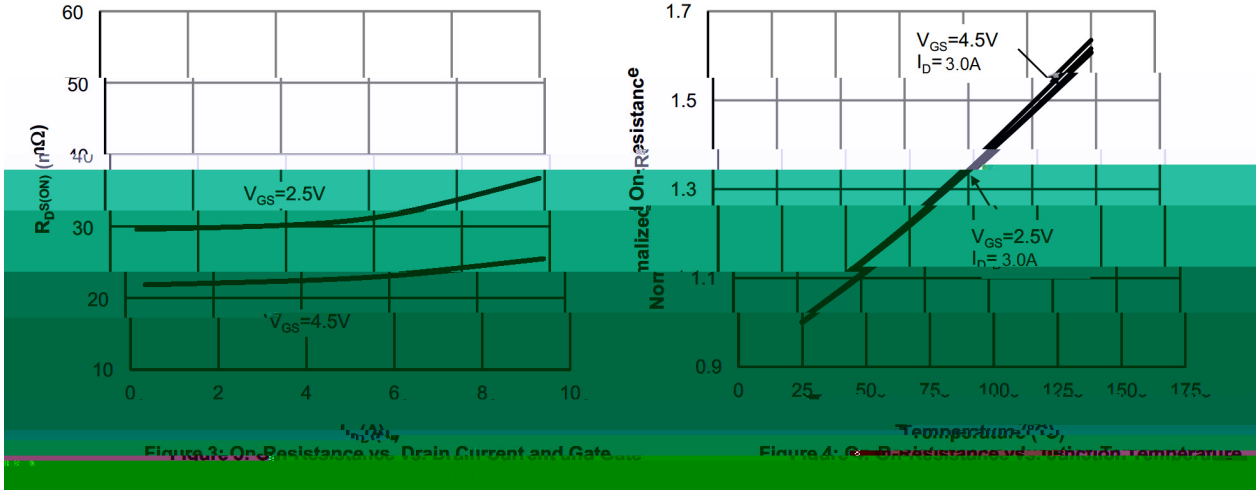


Figure 3: On-Resistance vs. Drain Current and Gate

Figure 4: On-Resistance vs. Junction Temperature

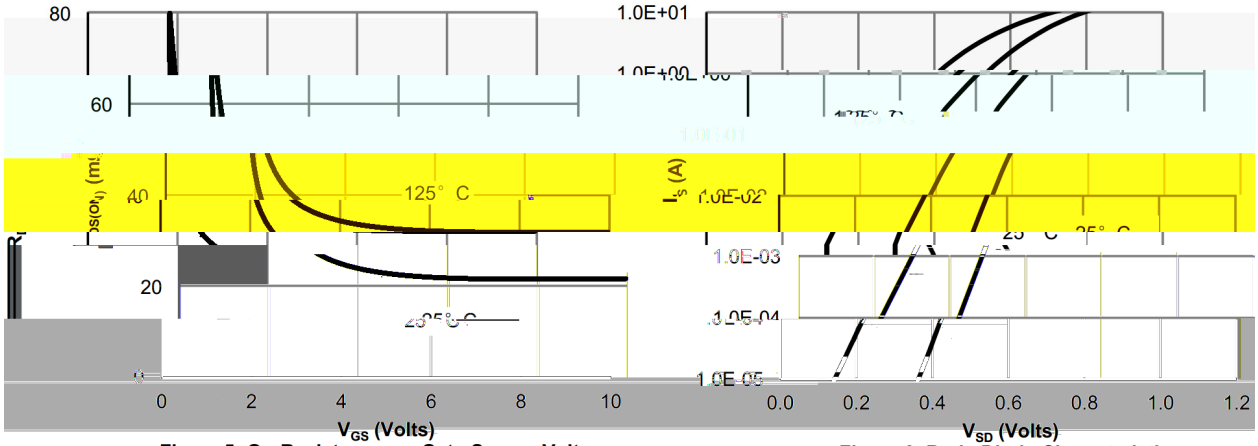


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics

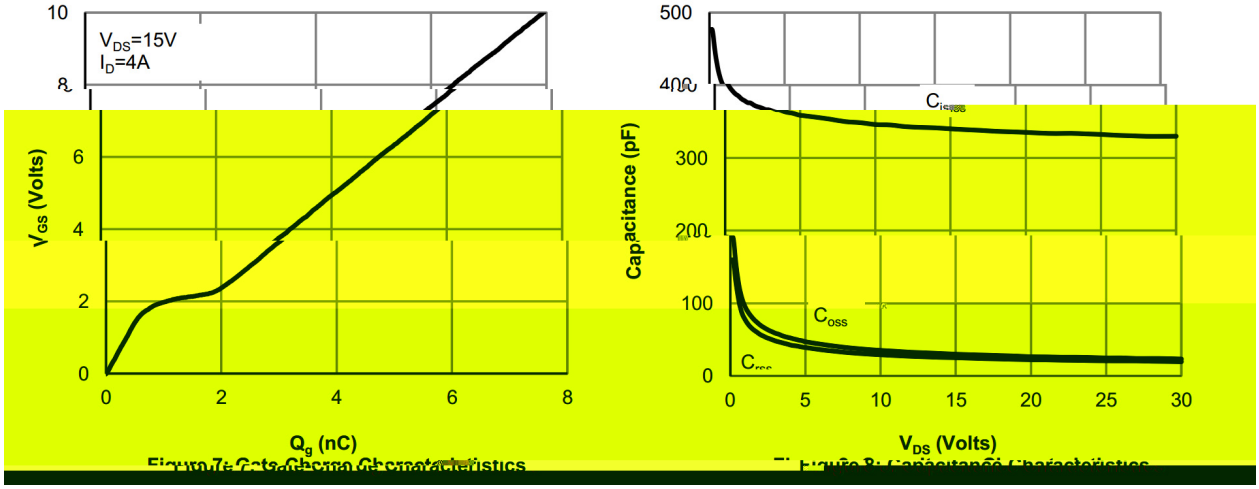


Figure 7: Gate-Charge Characteristics

Figure 8: Capacitance Characteristics

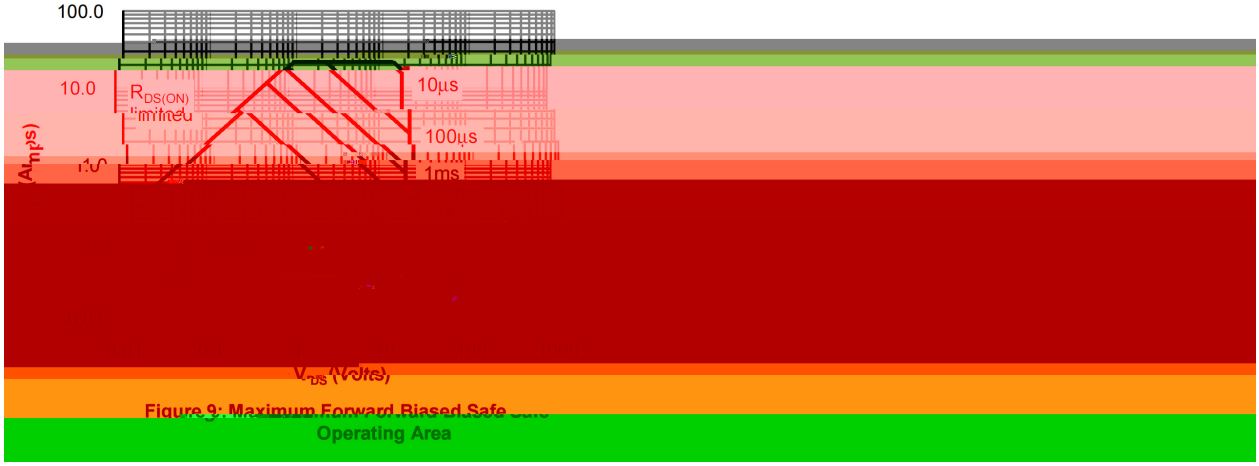


Figure 9: Maximum Forward Biased Safe Operating Area

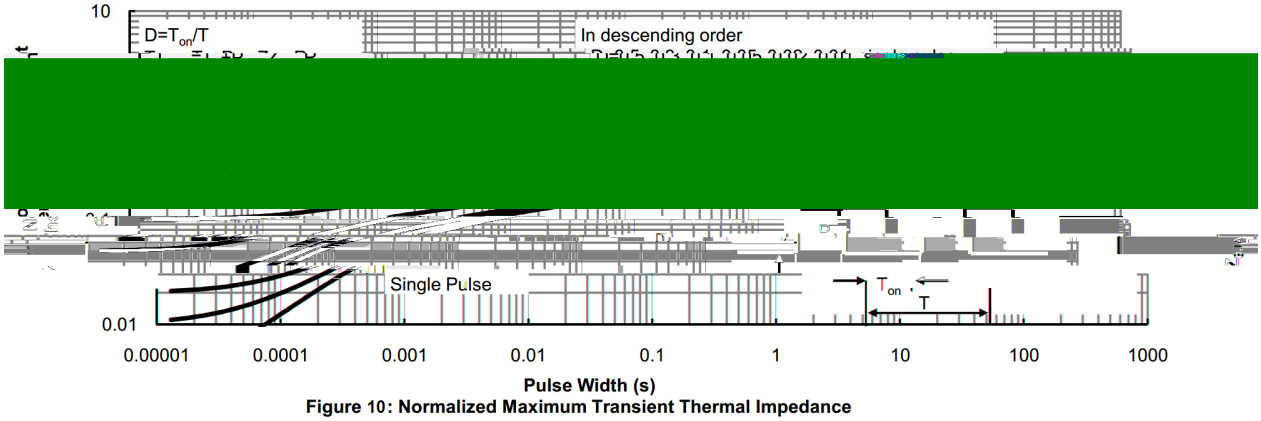


Figure 10: Normalized Maximum Transient Thermal Impedance

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V I_D=-250μA	-20	-22		V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=-250μA	-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	mΩ
	$R_{DS(on)}$	V_{GS}=-2.5V I_D=-2.0A		107	150	mΩ
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-20V V_{GS}=0V			-1	μA
Gate–Body Leakage	I_{GSS}	V_{GS}=±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, V_{GS}=0V f=1MHz		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=2.8Ω R_{GEN}=3Ω		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		

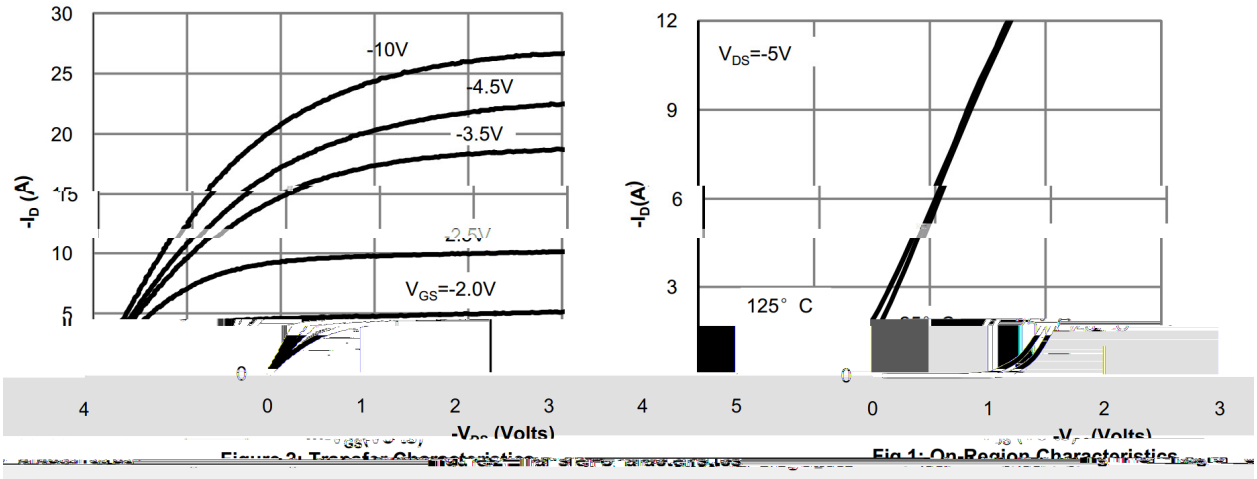


Figure 2: Transfer Characteristics

Fig 1: On-Region Characteristics

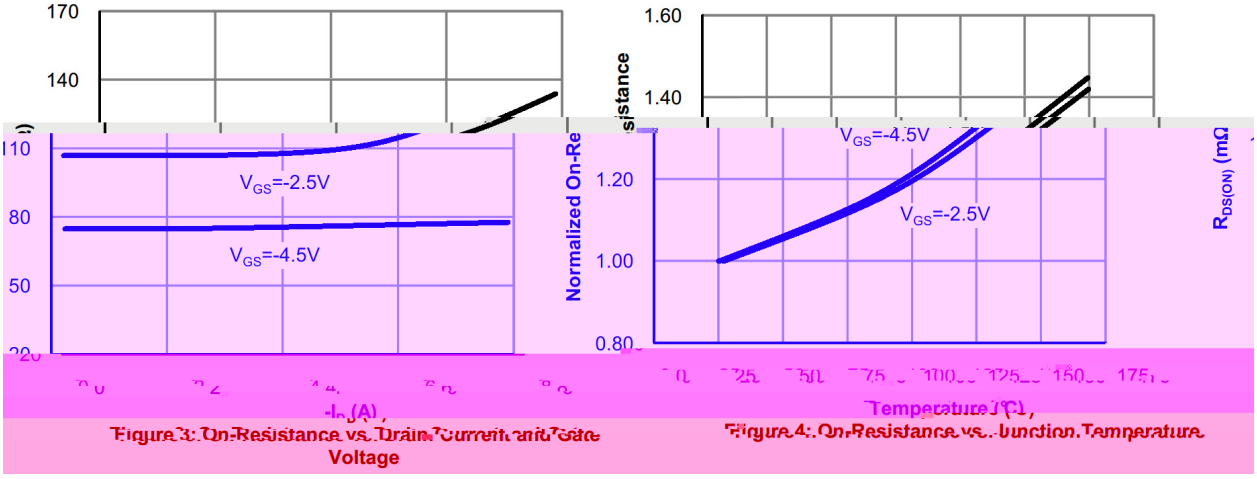


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

Figure 4: On-Resistance vs. Junction Temperature

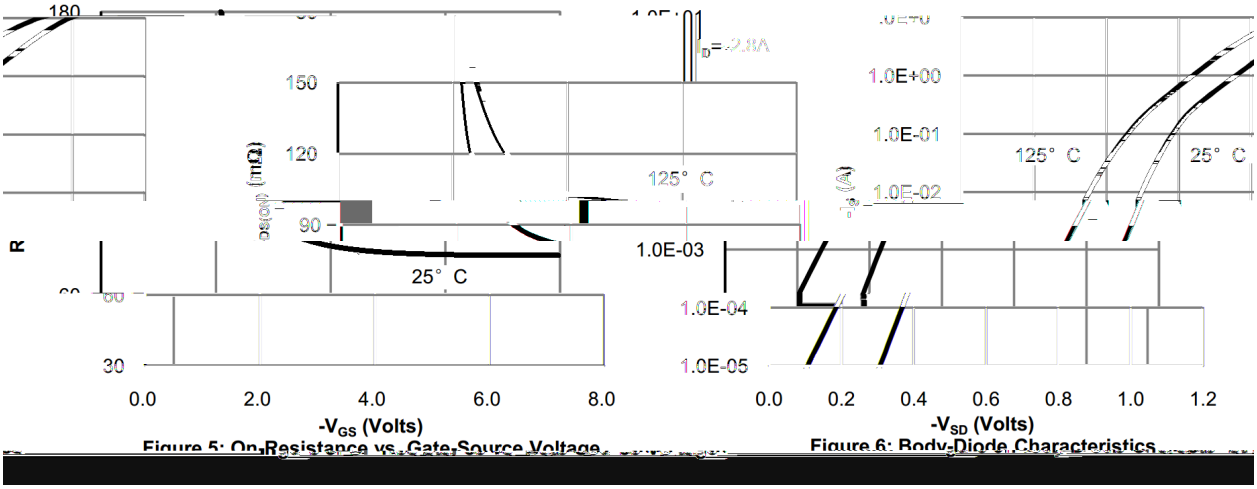
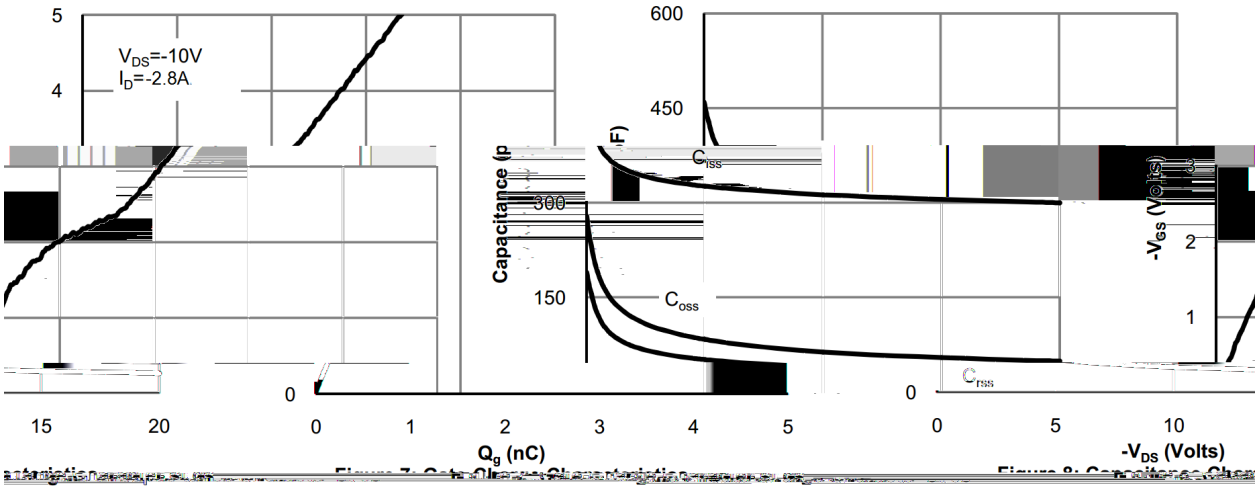
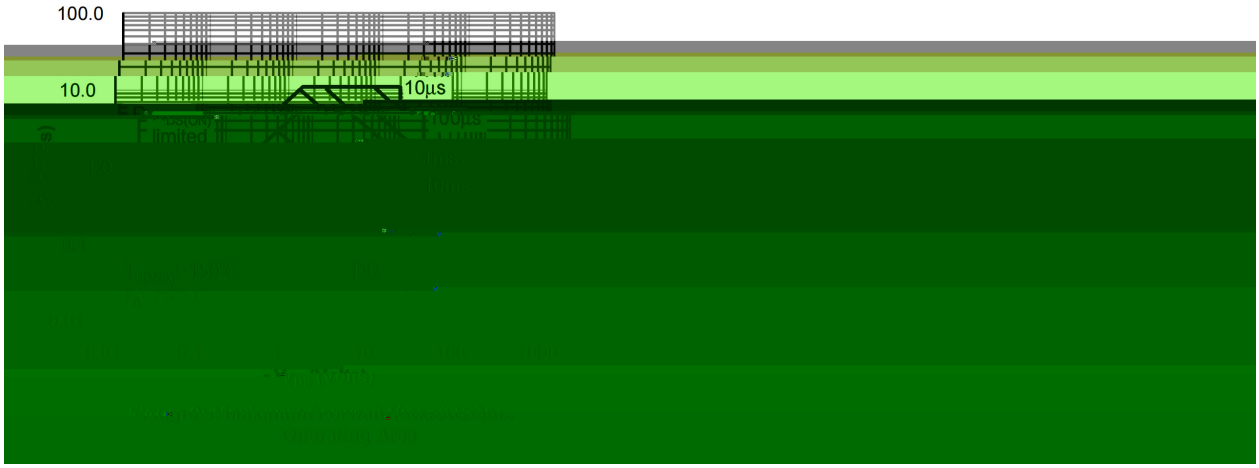


Figure 5: On-Resistance vs. Gate-Source Voltage

Figure 6: Body-Diode Characteristics





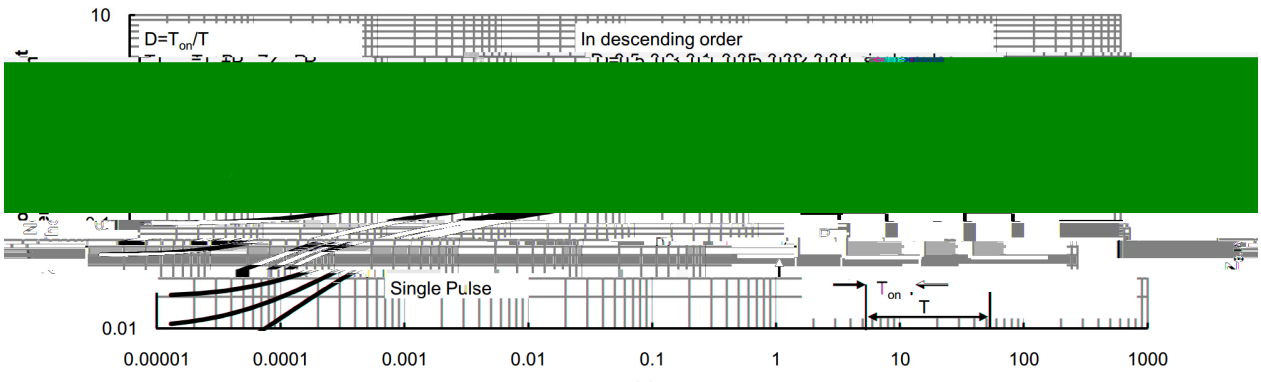
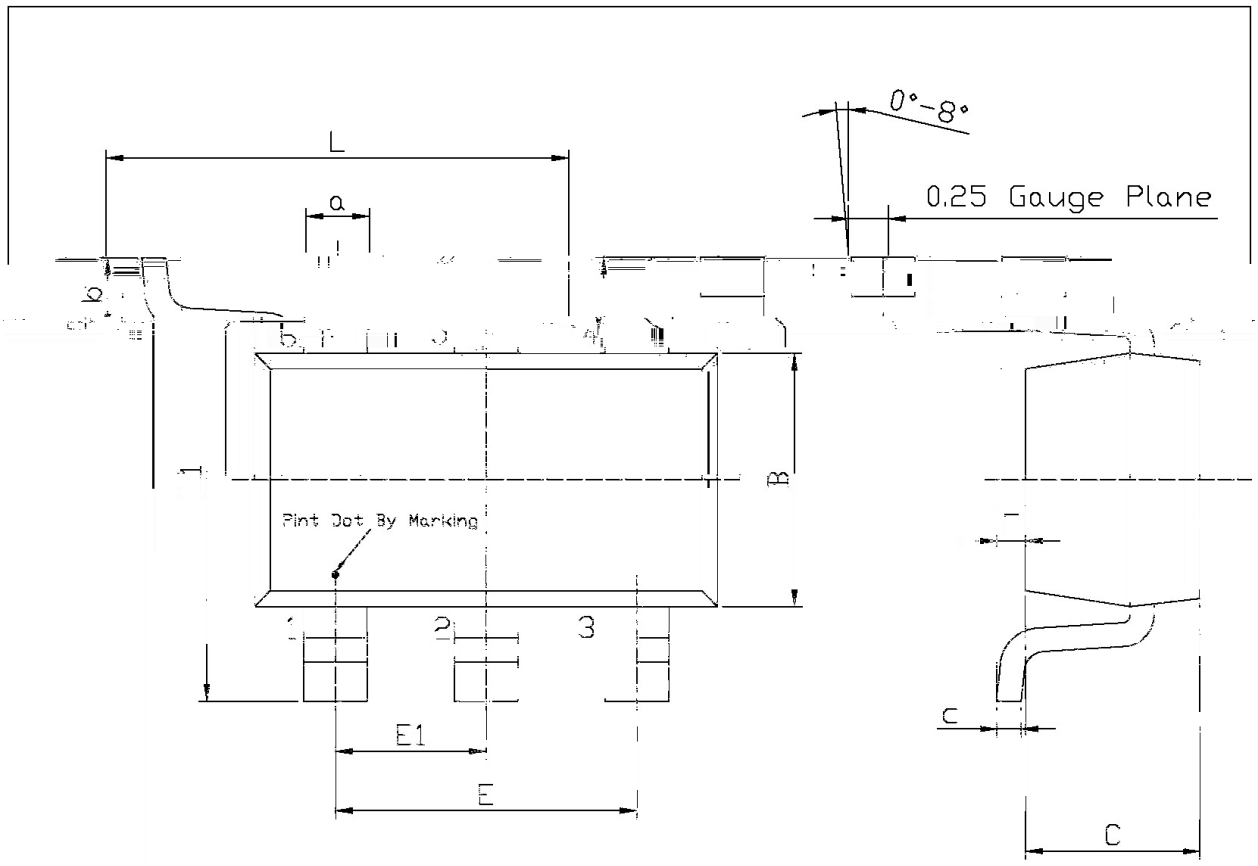


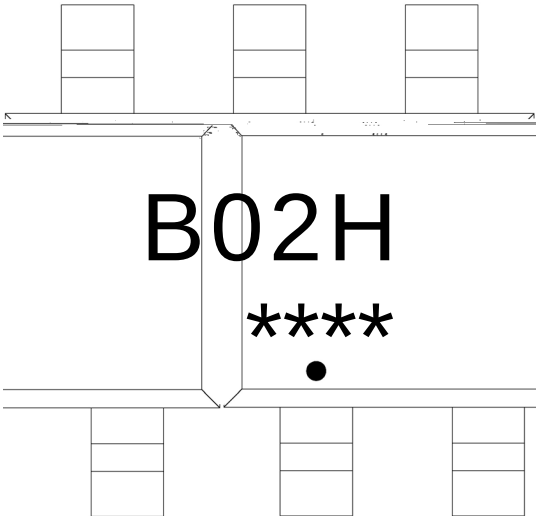
Figure 10: Normalized Maximum Transient Thermal Impedance



Unit: mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.82	3.02	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



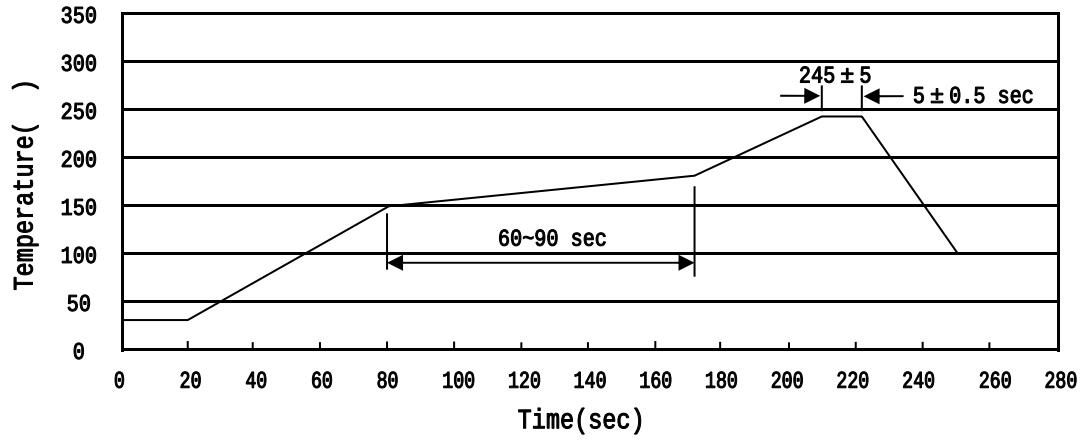
B02:

H

****:

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 mm³)
	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