SSF6072G5

Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
R	Junction-to-		38	/W
	Junction-to-Ambient (PCB mounted, steady-state)		35	/W

Electrical Characterizes @T_A=25 unless otherwise specified

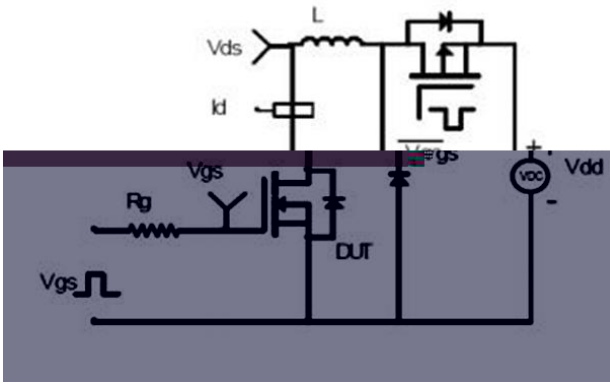
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	60			V	V_{GS} = 0V, I_D
$R_{DS(on)}$	Static Drain-to-Source on-resistance		67	100		V_{GS}=10V,I_D = 1.5A
			76	115		V_{GS}=5V,I_D = 1.5A
$V_{GS(th)}$	Gate threshold voltage	1		2.5	V	V_{DS} = V_{GS}, I_D = 250 A
I_{DSS}	Drain-to-Source leakage current			1		V_{DS} = 60V,V_{GS} = 0V
				10		T_J = 125°C
I_{GSS}	Gate-to-Source forward leakage			100	nA	V_{GS} =20V
				-100		V_{GS} = -20V
gfs	Forward Transconductance	1			S	V_{DS} = 15 V I_D = 1.5A
Q_g	Total gate charge		12		nC	I_D = 4A,
Q_{gs}	Gate-to-Source charge		3.5			V_{DS}=40V,
Q_{gd}	Gate-to-Drain("Miller") charge		3.7			V_{GS} =10V
$t_{d(on)}$	Turn-on delay time		9.2		ns	
t_r	Rise time		16.7			V_{GS}=10V, VDS=25V,
$t_{d(off)}$	Turn-Off delay time		35.4			R_{GEN}=50 I_D = 1.2A,
t_f	Fall time		8.6			
C_{iss}	Input capacitance		582		pF	V_{GS} = 0V
C_{oss}	Output capacitance		49			V_{DS} = 30V
C_{rss}	Reverse transfer capacitance		36			1MHz

Source-Drain Ratings and Characteristics

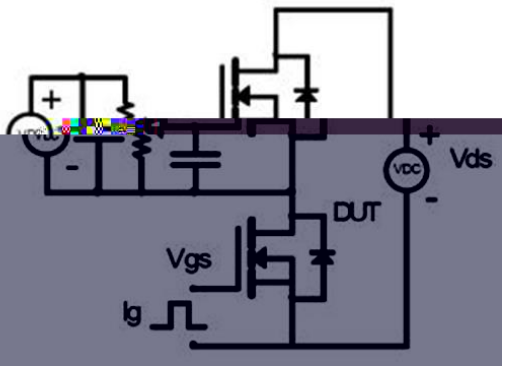
Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
I_S	Continuous Source Current (Body Diode)			4	A	MOSFET symbol showing the integral reverse p-n junction diode. 
I_{SM}	Pulsed Source Current (Body Diode)			16	A	
V_{sd}	Diode Forward Voltage			1.5	V	I_S=4A, V_{GS}=0V

Test circuits and Waveforms

EAS Test Circuit:

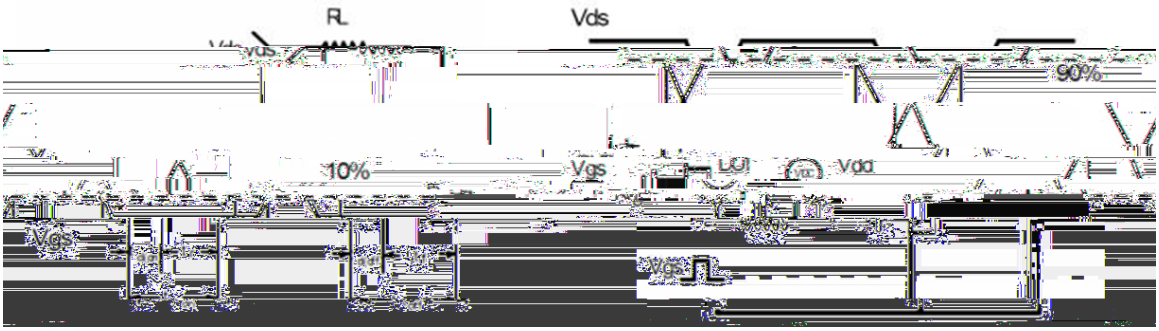


Gate Charge Test Circuit:



Switching Time Test Circuit:

Switching Waveforms:



Notes:

The maximum current rating is limited by bond-wires.

Repetitive rating; pulse width limited by max. junction temperature.

The power dissipation PD is based on max. junction temperature, using junction-to- ambient thermal resistance.

The value of R is measured with the device mounted on 1in 2 FR-4 board with 2oz. Copper, in a still air environment with TA =25°C

Typical Electrical and Thermal Characteristics

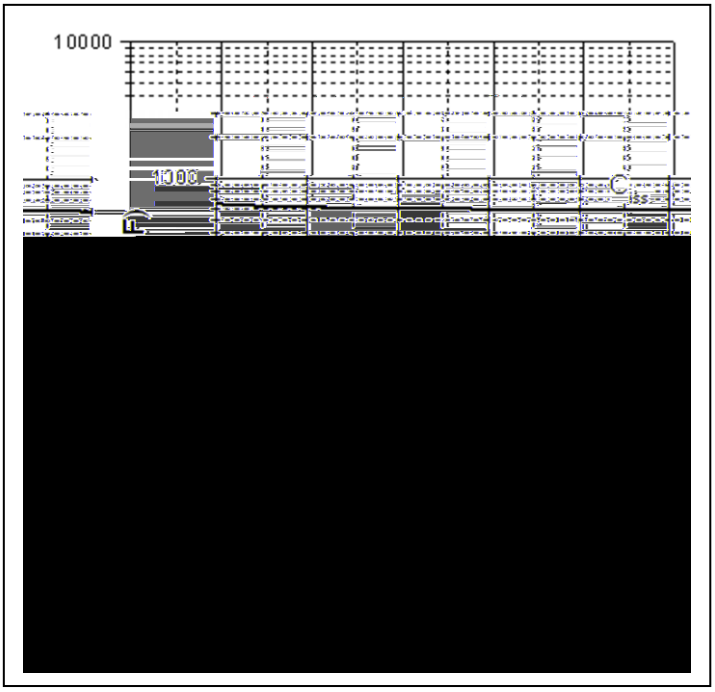


Figure 1. Typical Capacitance vs. Drain-to-Source Voltage

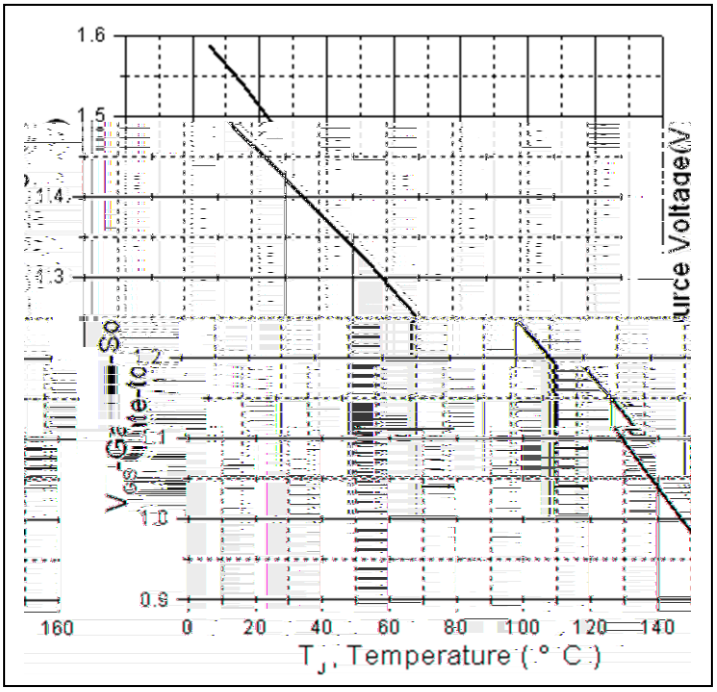


Figure 2. Gate to source cut-off voltage

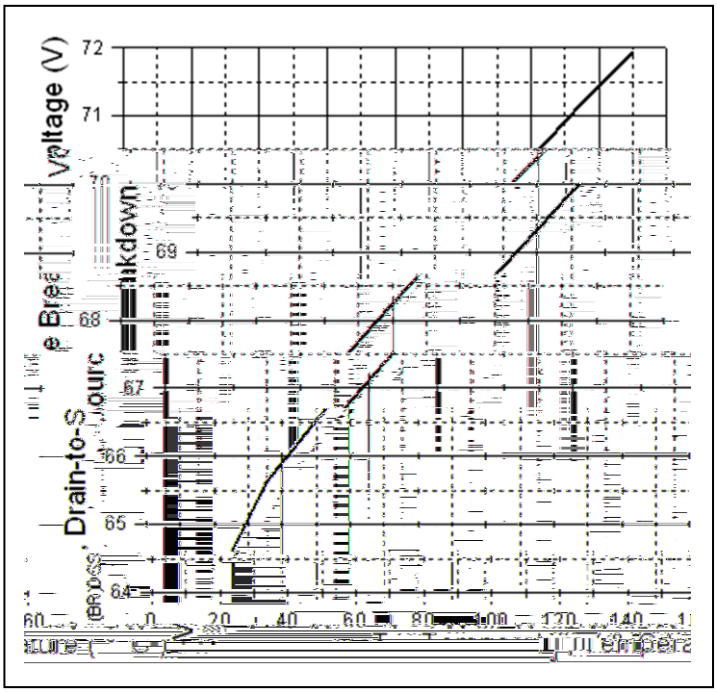


Figure 3. Drain-to-Source Breakdown Voltage vs. Junction Temperature

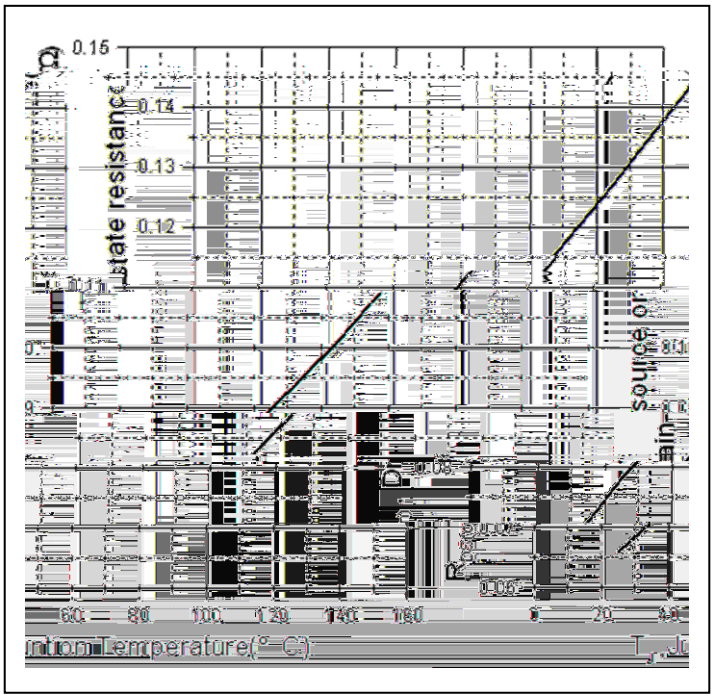


Figure 4. Normalized On-Resistance vs. Junction Temperature

Typical Electrical and Thermal Characteristics

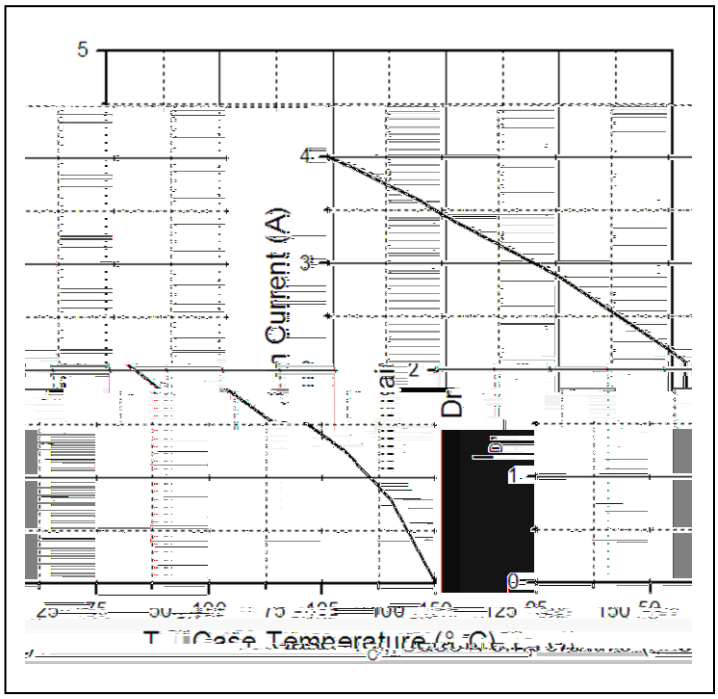


Figure 5. Maximum Drain Current vs. Case Temperature

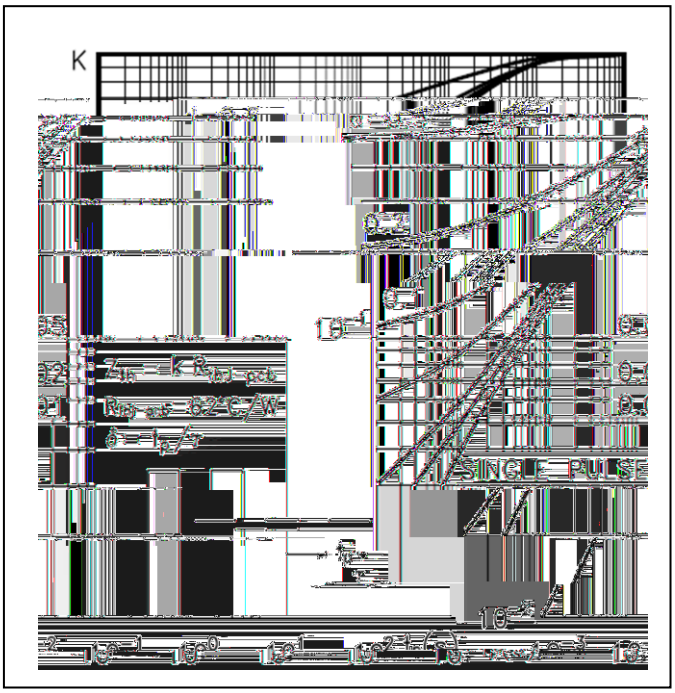
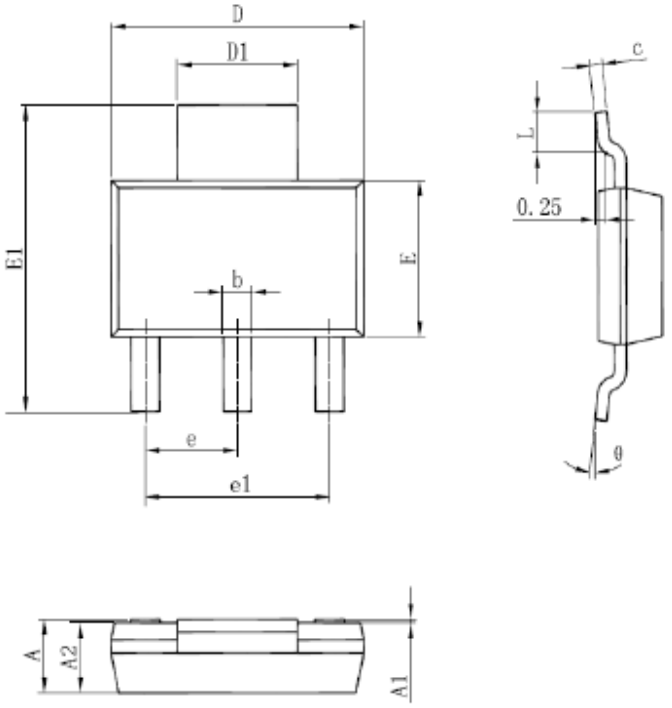


Figure 6. Maximum Effective Transient Thermal Impedance, Junction-to-Case

Mechanical Data

Option 1

SOT-223 Dimensions (UNIT: mm)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.520	1.800	0.060	0.071
A1	0.000	0.100	0.000	0.004
A2	1.500	1.700	0.059	0.067
b	0.660	0.760	0.026	0.030
c	0.250	0.350	0.010	0.014
D	6.400	6.600	0.252	0.260
D1	3.100	3.172	0.122	0.125
E	3.300	3.700	0.130	0.146
E1	6.700	7.100	0.264	0.280
e	2.300 BSC		0.091 BSC	
e1	4.500	4.700	0.177	0.185
L	0.900	1.150	0.035	0.045
θ	0°	10°	0°	10°

Notes

Dimensions are inclusive of plating

Package body sizes exclude mold flash and gate burrs. Mold flash at the non-lead sides should be less than 6 mils.

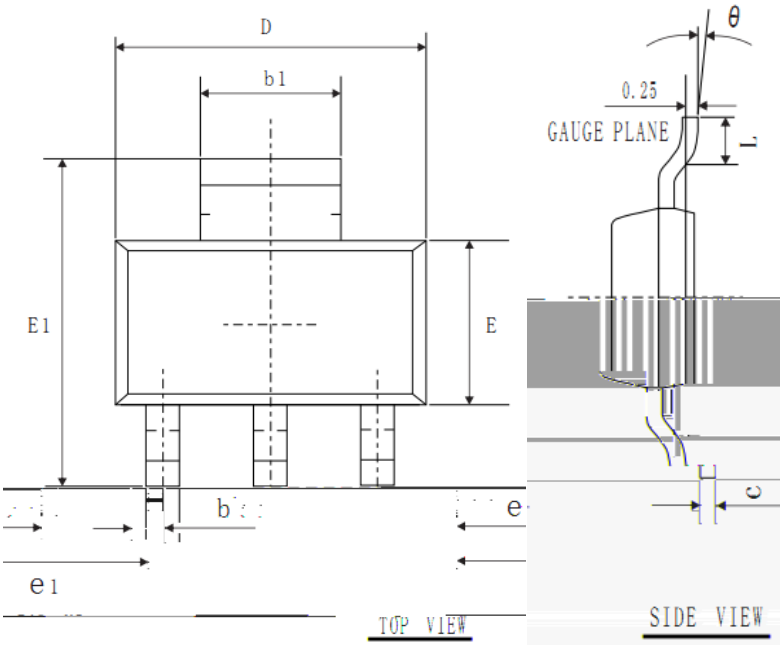
Dimension L is measured in gauge plane.

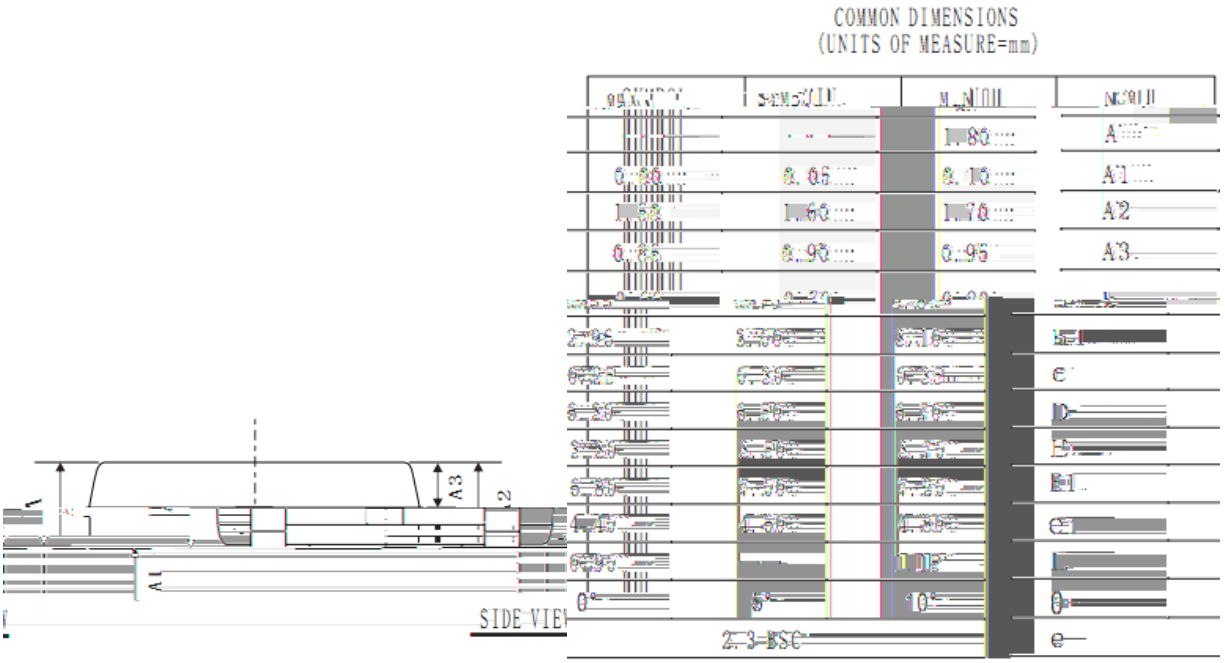
Controlling dimension is millimeter, converted inch dimensions are not necessarily exact.

Mechanical Data

Option 2

SOT-223 Dimensions (UNIT: mm)





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Silikron assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operatieratier(c)7(i)-4, liai(o)-3(s)-6(e)-3( )17(p)1 3569BT1 09-3(ft)-3(')(

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