

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
1000V	$55\Omega@10V$	0.5A

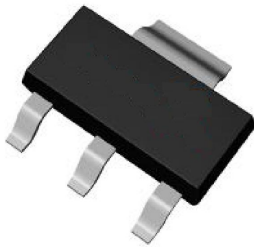
Feature

- Fast Switching
- Low Gate Charge and Rds(on)

Application

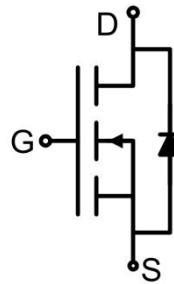
- Power switching application
- DC/DC Converter
- Power Management

Package

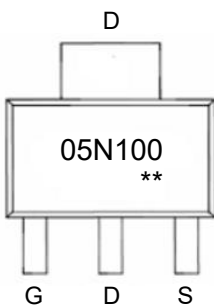


SOT-223

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	1000	V
Gate-Source Voltage	V_{GS}	±30	V
Continuous Drain Current (Tc=25°C)	I_D	0.5	A
Pulsed Drain Current	I_{DM}	2	A
Power Dissipation(Tc=25°C)	P_D	3.6	W
Thermal resistance, junction-case	$R_{\theta JC}$	35	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ +150	°C

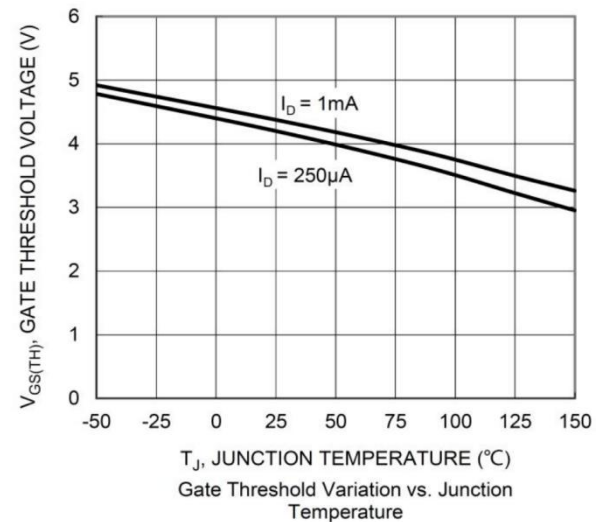
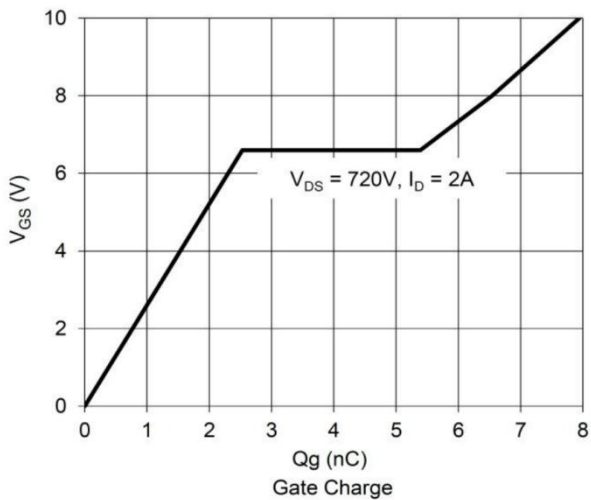
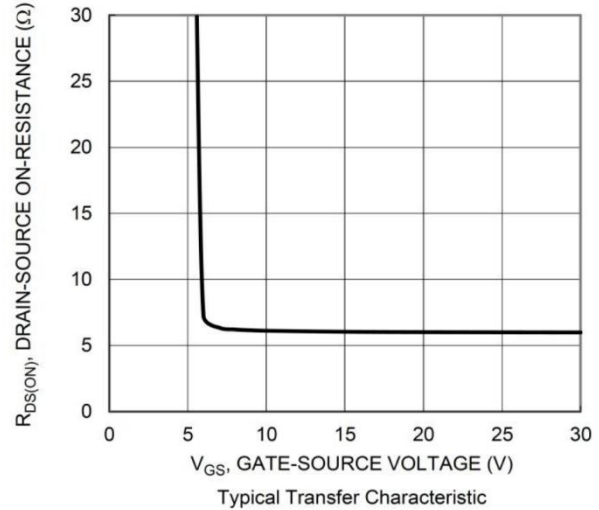
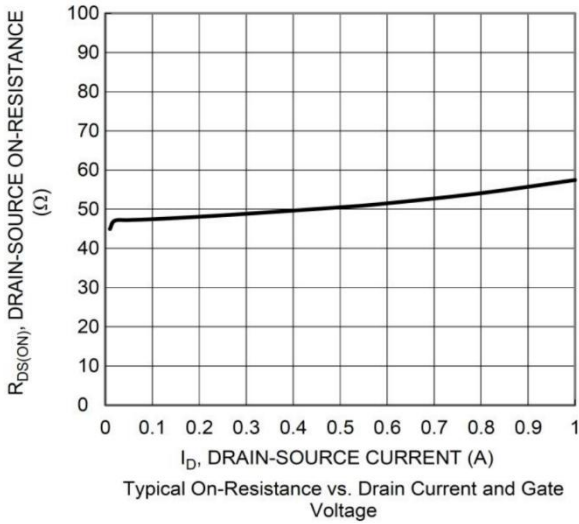
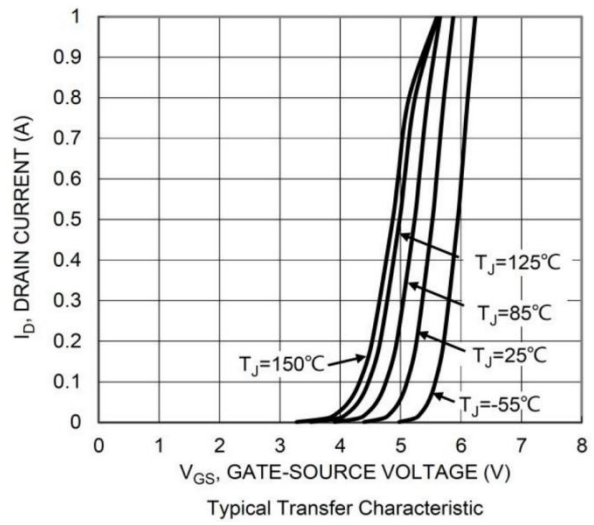
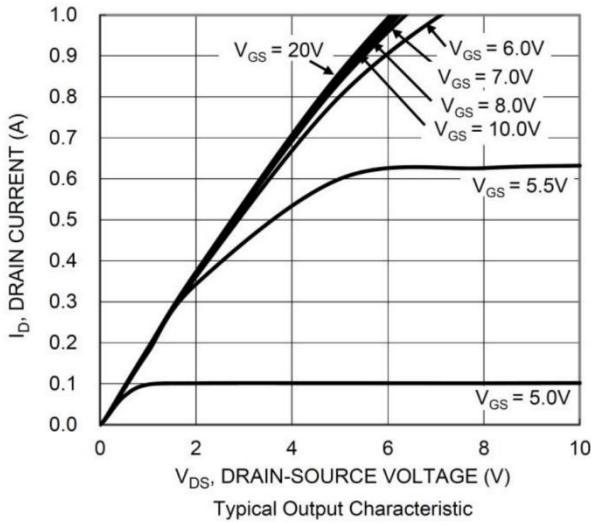
Electrical characteristics (Ta=25 °C, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	1000			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 800V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 30V, V_{DS} = 0V$			±100	nA
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2	3	4	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 0.3A$		40	55	Ω
Dynamic characteristics¹⁾						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$		472		pF
Output Capacitance	C_{oss}			43		
Reverse Transfer Capacitance	C_{rss}			1.2		
Total Gate Charge	Q_g	$V_{DS} = 800V, V_{GS} = 10V, I_D = 0.3A$		7.5		nC
Gate-Source Charge	Q_{gs}			2.5		
Gate-Drain Charge	Q_{gd}			2.7		
Turn-on delay time	$t_{d(on)}$	$V_{DS} = 500V, V_{GS} = 10V, I_D = 0.3A$ $R_G = 25\Omega$		17		nS
Turn-on rise time	t_r			22		
Turn-off delay time	$t_{d(off)}$			17.3		
Turn-off fall time	t_f			18		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	$V_{GS} = 0V, I_S = 0.3A$			1.2	V

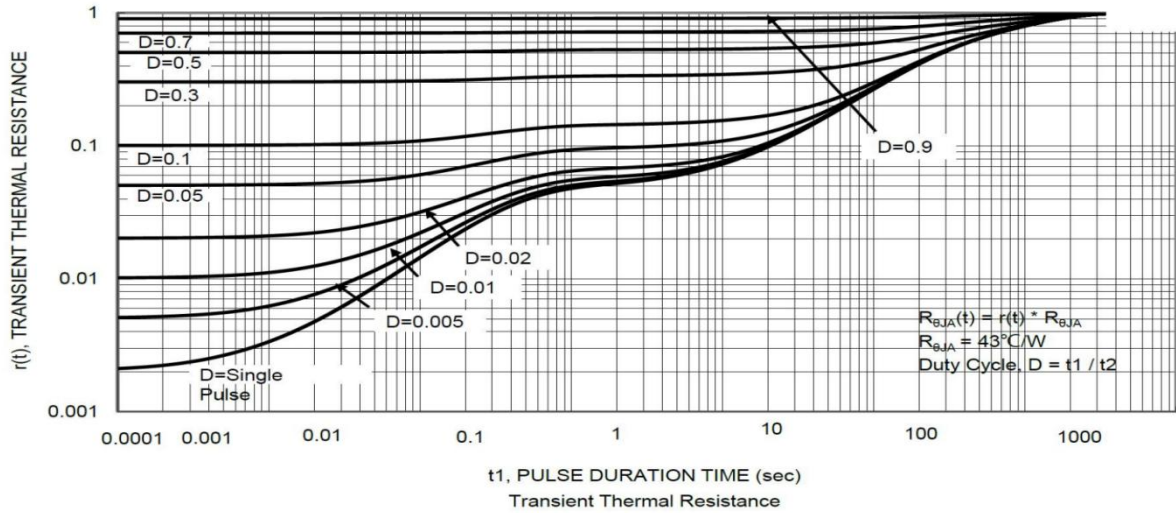
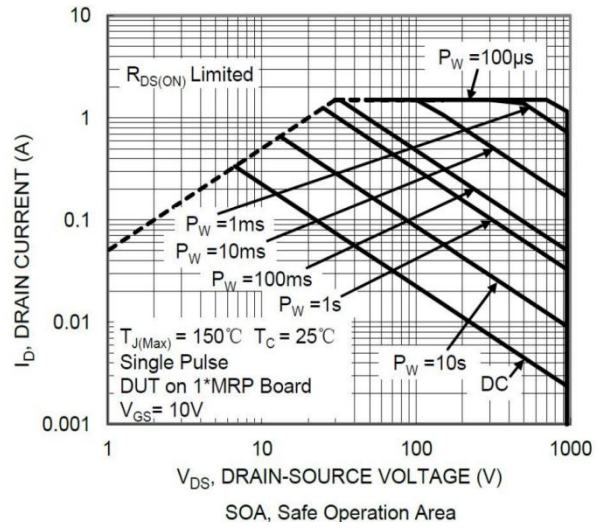
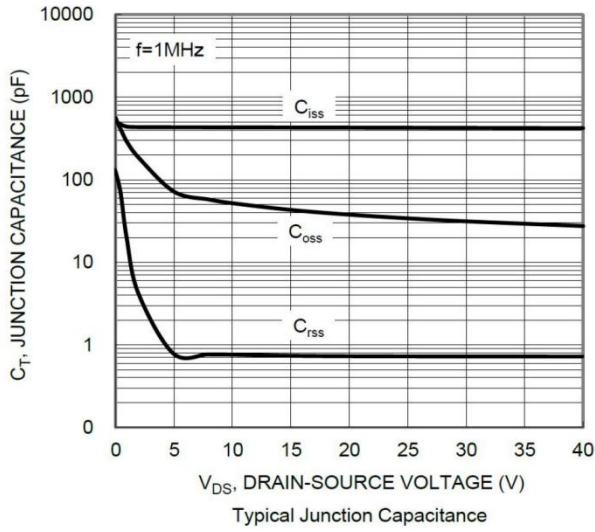
Notes:

1) Guaranteed by design, not subject to production.

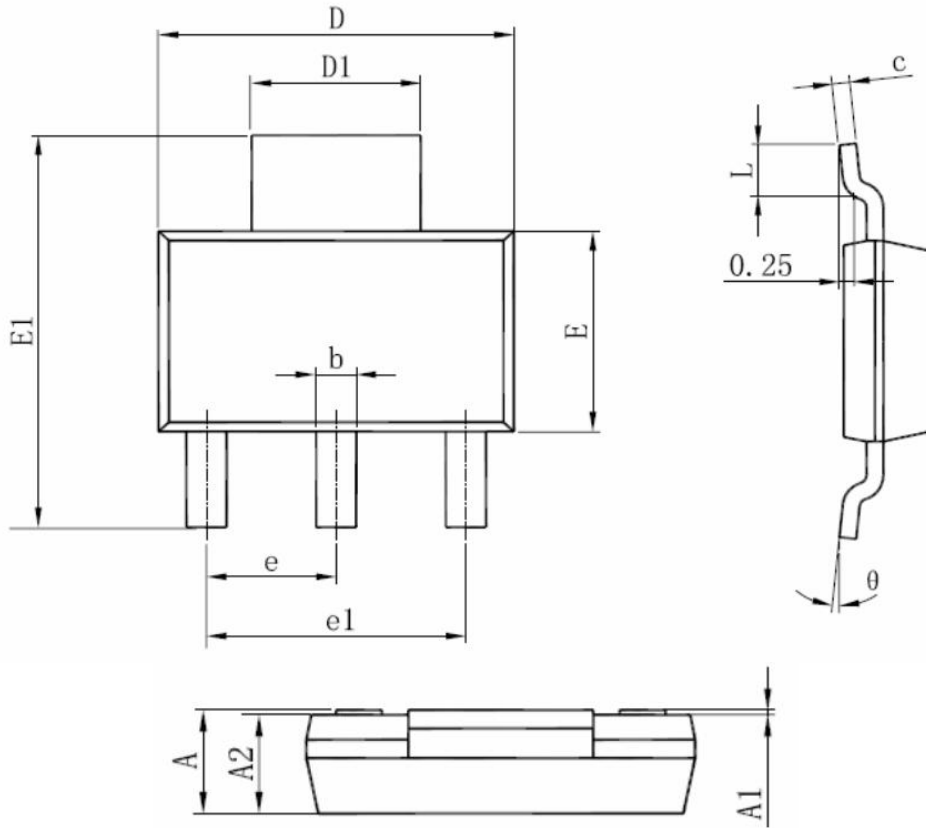
Typical Characteristics



Typical Characteristics



SOT-223 Package Information



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	0.820	0.026	0.032
c	0.250	0.350	0.010	0.014
D	6.200	6.400	0.244	0.252
D1	2.900	3.100	0.114	0.122
E	3.300	3.700	0.130	0.146
E1	6.830	7.070	0.269	0.278
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°