

Features

- Low on-resistance
- High-speed switching
- Drive circuits can be simple
- Parallel use is easy

Typical Applications

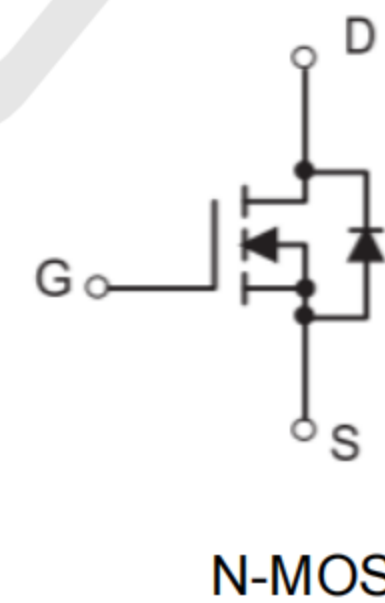
- Switching application

Shipping Quantity

- 3000pcs / Tape & Reel



Circuit Diagram



Marking:SA.x

“x” is internal code

Absolute Maximum Ratings (Tamb=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Drain-to-Source Voltage	V_{DSS}	100	V
Gate-to-Source Voltage	V_{GSS}	± 20	V
Continuous Drain Current	I_D	170	mA
Pulsed Drain Current *3	I_{DM}	680	mA

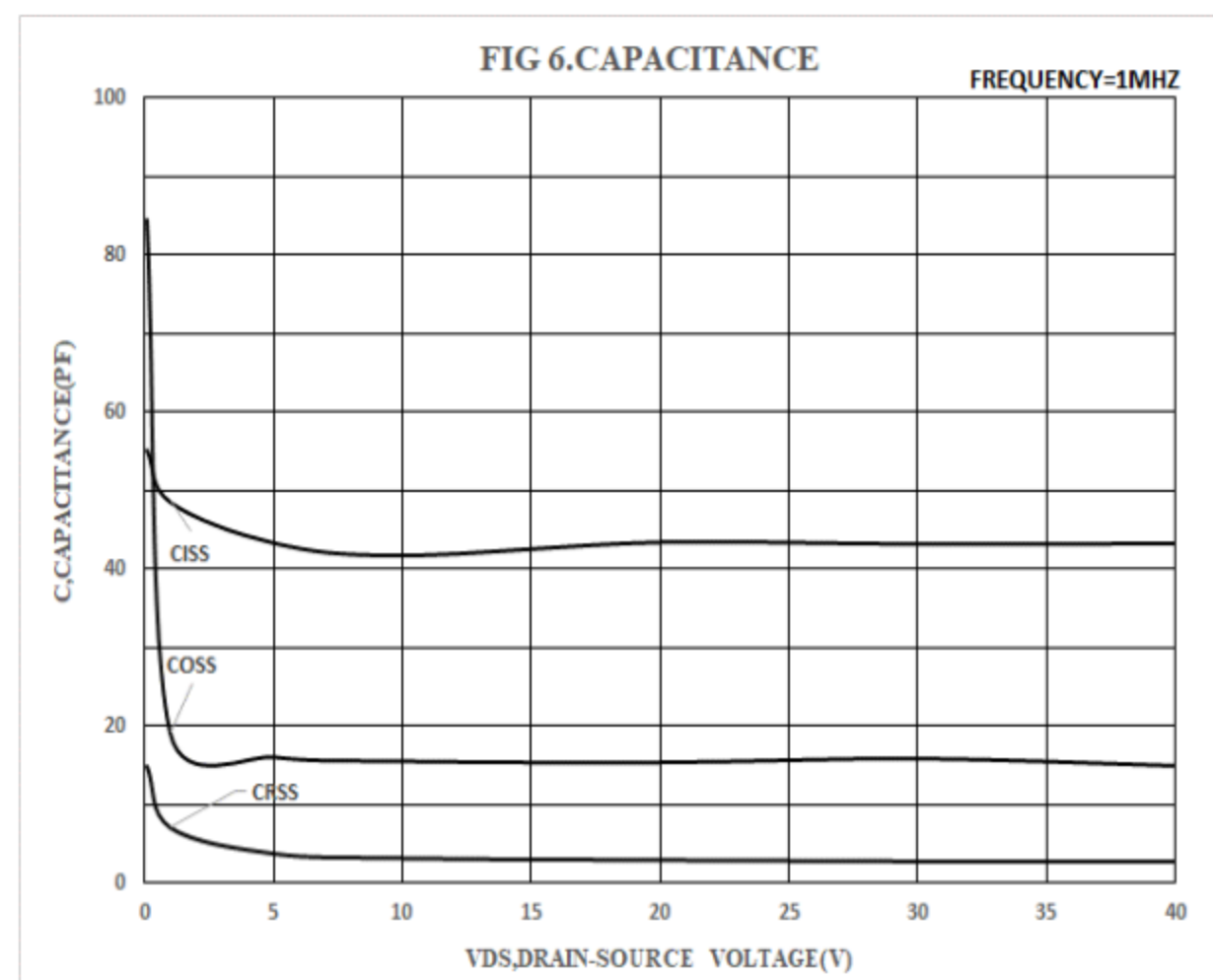
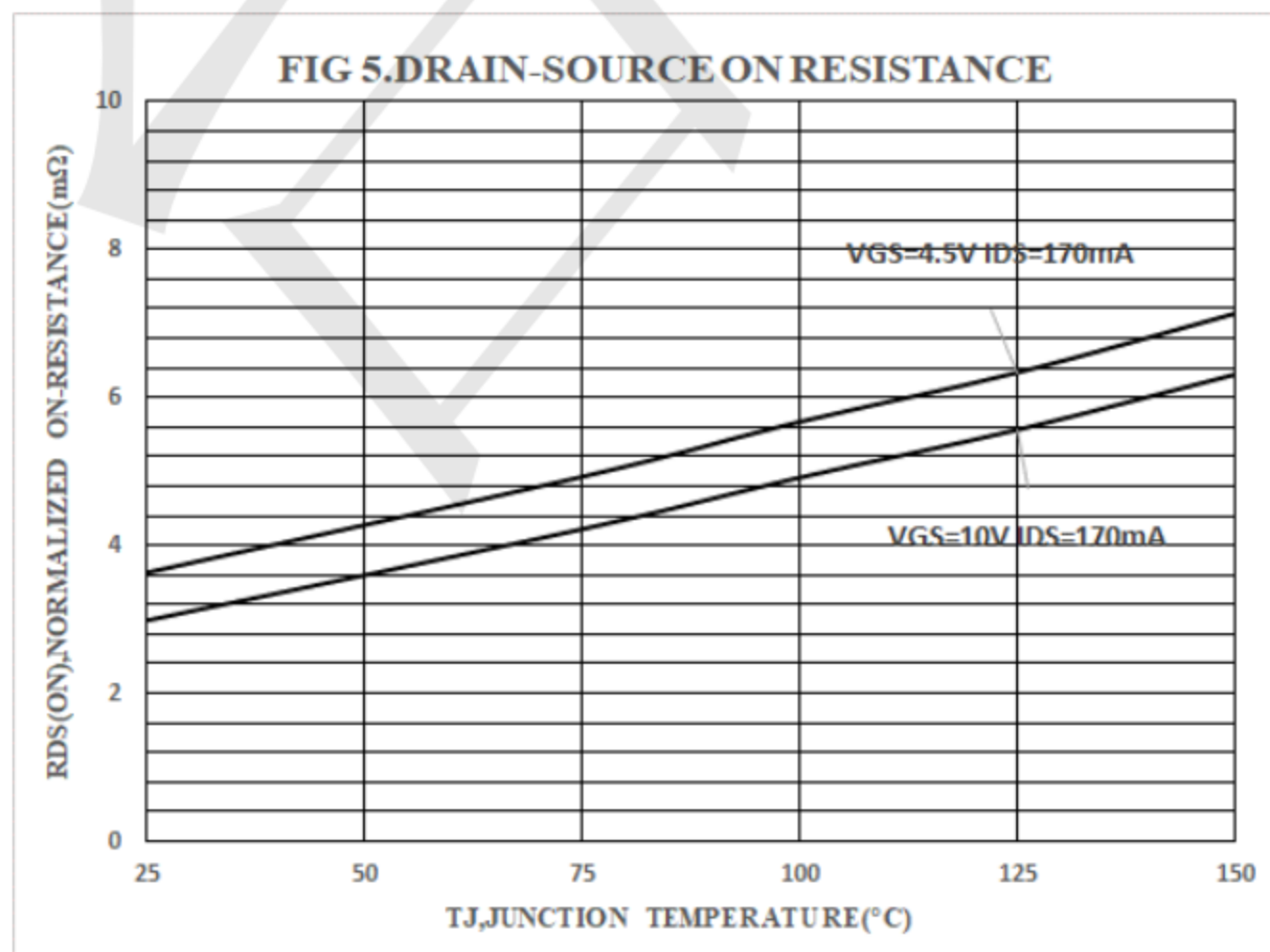
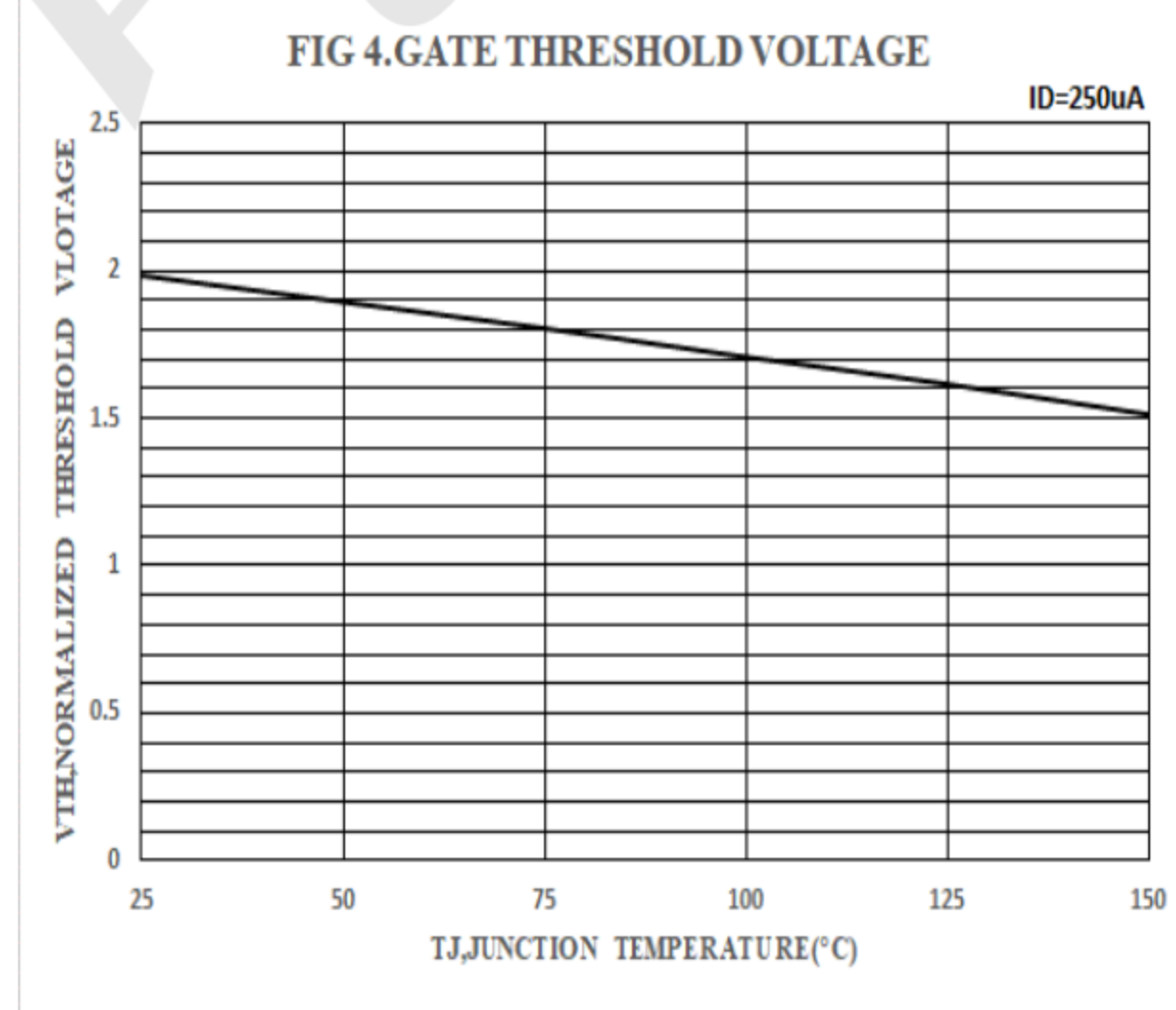
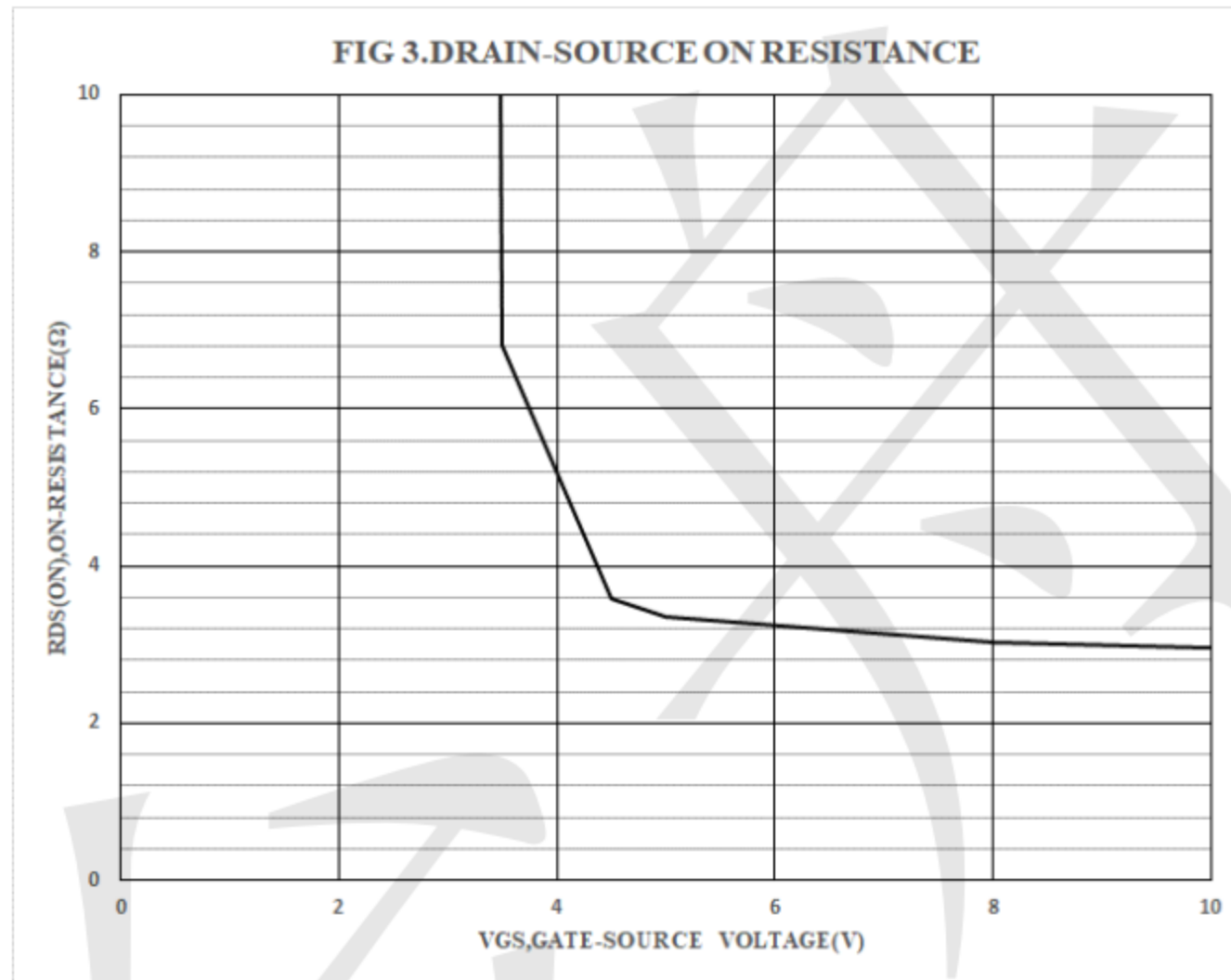
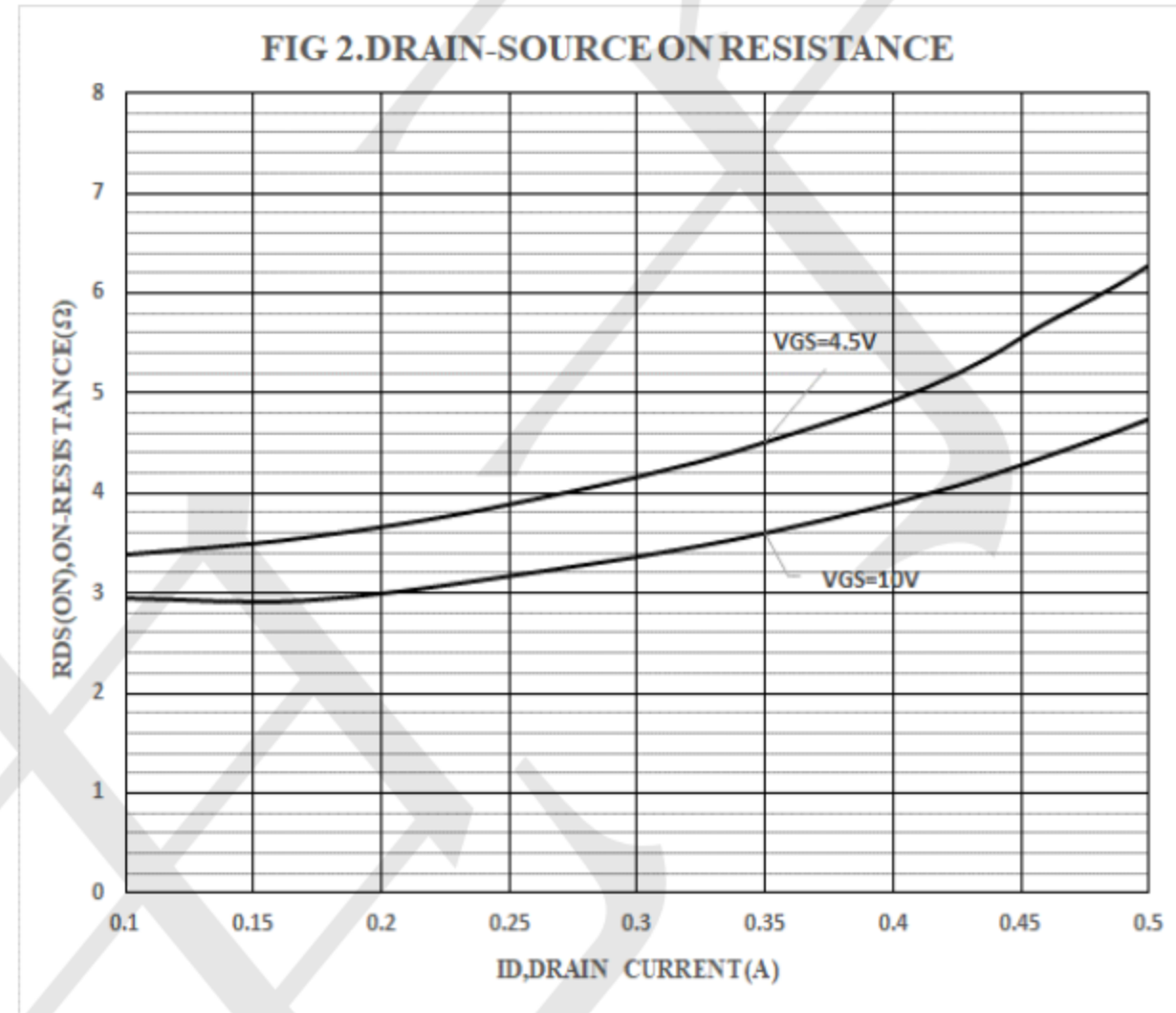
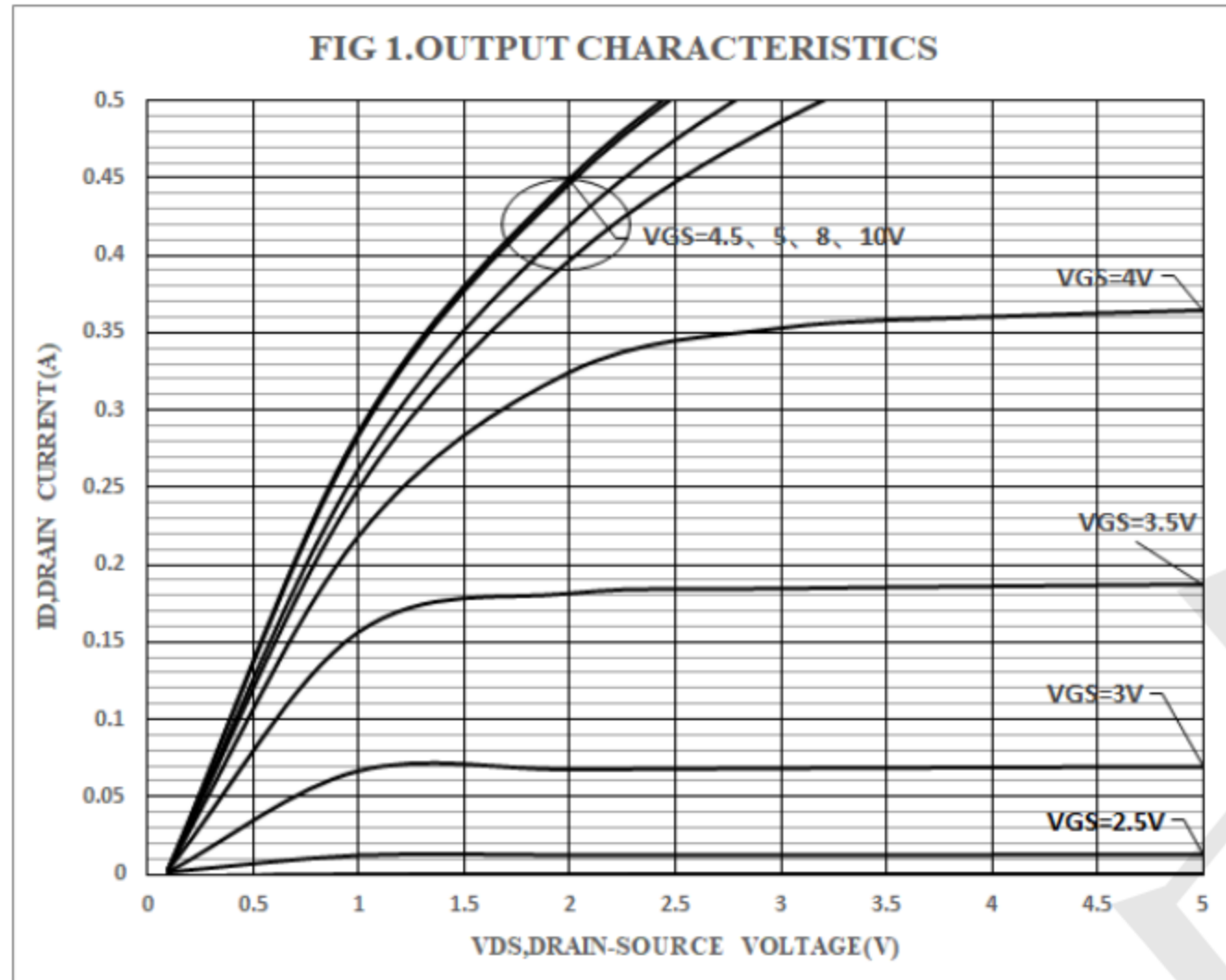
Thermal Characteristics

Parameter		Symbol	Value	Unit
Power Dissipation	SOT-23	P_D	0.35	W
Thermal Resistance Junction-to-Air	SOT-23	$R_{\theta JA}$	357	$^{\circ}\text{C/W}$
Operating Junction Temperature Range		T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature Range		T_{STG}	-55 to +150	$^{\circ}\text{C}$

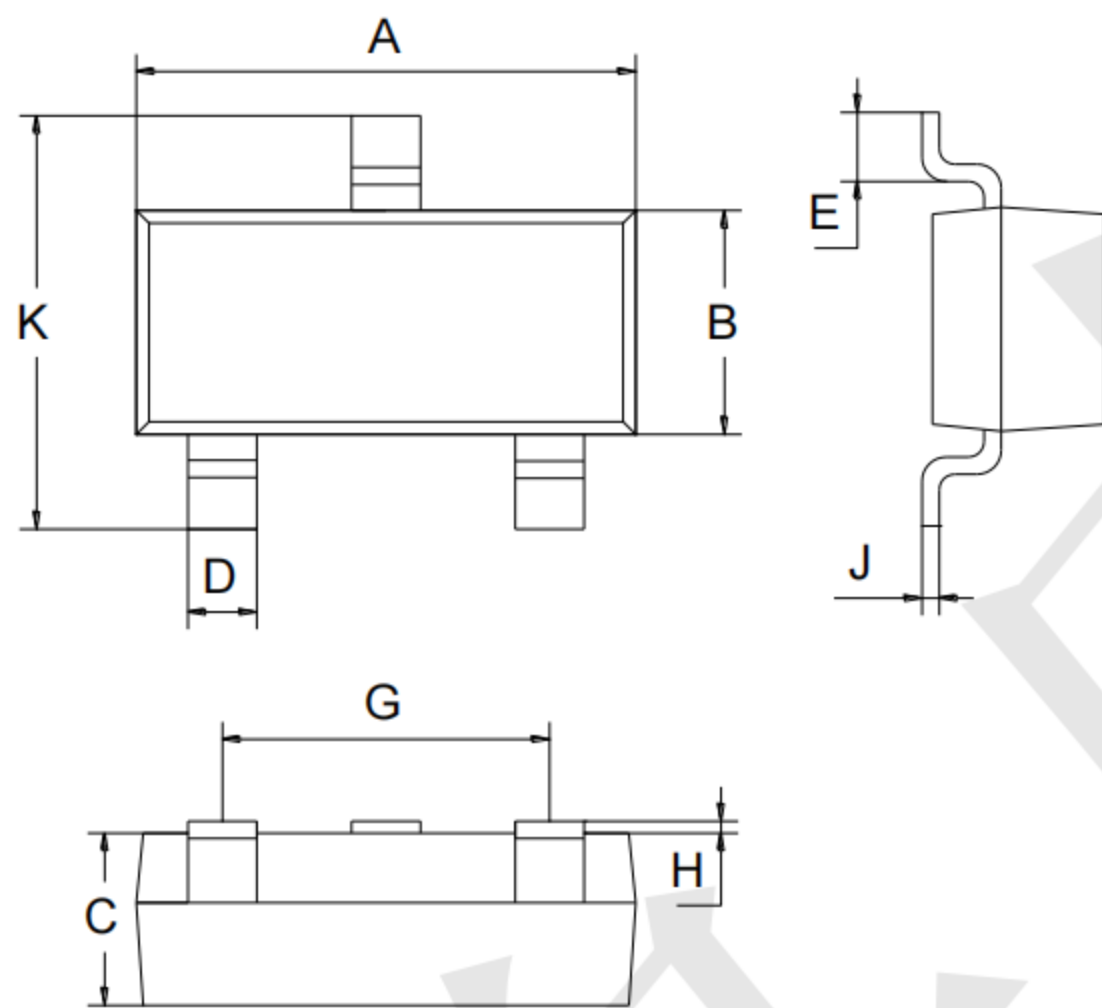
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
V _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = 250μA	100	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 100V, V _{GS} = 0V	-	-	1	μA
		V _{DS} = 20V, V _{GS} = 0V	-	-	10	nA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V, V _{DS} = 0V	-	-	±1	μA
On Characteristics						
R _{DS(ON)}	Static Drain-Source On-resistance *1	V _{GS} = 10V, I _D = 0.17A	-	3.0	6	Ω
		V _{GS} = 4.5V, I _D = 0.17A	-	3.5	10	
V _{GS(TH)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	1	1.9	2.8	V
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} = 0V V _{DS} = 20V f = 1.0MHz	-	43	-	pF
C _{oss}	Output Capacitance		-	15	-	
C _{rss}	Reverse Transfer Capacitance		-	2.8	-	
Switching Characteristics *2						
t _{d(on)}	Turn-on Delay Time	V _{DD} = 30V, I _D = 0.28A V _{GS} = 10V, R _G = 50Ω	-	-	8	ns
t _r	Turn-on Rise Time		-	-	8	
t _{d(off)}	Turn-Off Delay Time		-	-	13	
t _f	Turn-Off Fall Time		-	-	16	
Source-Drain Diode Characteristics						
V _{SD}	Diode Forward Voltage *1	I _S = 0.3A, V _{GS} = 0V	-	0.85	1.3	V

Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)



Outline Drawing - SOT23



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Land Pattern - SOT23

