VC9320A

N-Channel Enhancement Mode MOSFET

● Features

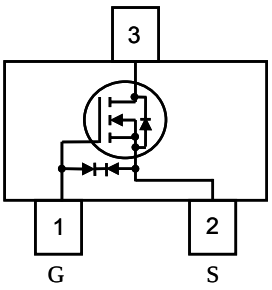
VDS	VGS	RDSon TYP	ID
20V	±8V	275mR@4V5	0.75A
		410mR@2V5	

● Applications

- Replace Digital Transistor
- Battery Operated Systems
- Power Supply Converter Circuits
- Load/Power Switching Cell Phones, Pagers

● Pin Configuration

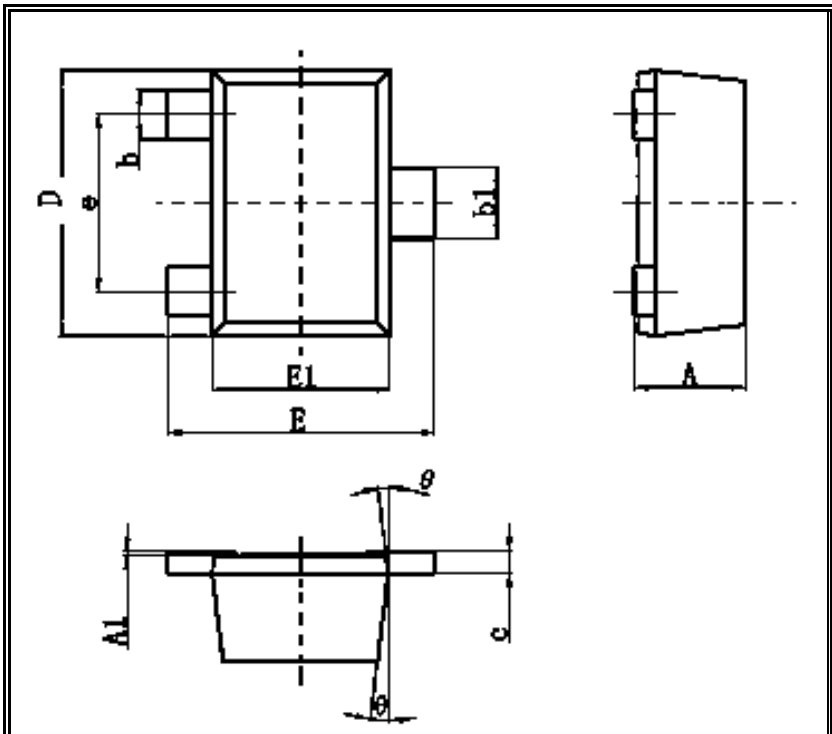
Top View



● General Description

This device is an N-Channel enhancement mode MOSFET which is produced with high cell density and DMOS trench technology .This device particularly suits low voltage applications, especially for battery powered circuits, the tiny and thin outline saves PCB consumption.

● Package Information



SOT723： mm			
Dim	Min	Max	Typ
A		0.50	
A1	0.00	0.05	
b	0.17	0.27	0.22
b1	0.27	0.37	0.32
c		0.15	
D	1.15	1.25	1.20
E	1.15	1.25	1.20
E1	0.75	0.85	0.80
e	0.80TYP		
θ	7°REF		

● **Absolute Maximum Ratings @ TA = 25°C unless otherwise specified**

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	±8	
Drain Current (Note 1)	Continuous	I_D	0.75	A
	Pulsed		3	
Power Dissipation Derating above T_A = 25°C (Note 1)		P_d	175	mW
Operating and Storage Temperature Range		T_J, T_{STG}	-55 to +150	°C

Note1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inches. The rating is for each chip in the package.

● **Electrical Characteristics @ TA = 25°C unless otherwise specified**

Parameter	mbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS} = 0 V, I_D = 250μA	20	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} = 16V, V_{GS} = 0V	--	--	1	uA
Gate-Body Leakage	I_{GSS}	V_{GS} = ±8V, V_{DS} = 0V	--	--	±100	nA
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS} = V_{GS}, I_D = 250uA	0.35	--	1	V
Static Drain-Source On-Resistance	$R_{DS\ (ON)}$	I_D = 600mA,V_{GS} = 4.5V	--	275	450	mR
		I_D = 500mA,V_{GS} = 2.5V	--	410	765	
		I_D = 350mA,V_{GS} = 1.8V	--	800	--	
Turn-On Delay Time	$t_{d(on)}$	V_{DD} = -6V, R_L = 6R, I_D = −1A,	--	6	--	ns
Turn-Off Delay Time	$t_{d(off)}$	V_{GEN} = -4.5V, R_G = 6R	--	28	--	
Input Capacitance	C_{ISS}	V_{DS} = -16V, V_{GS} = 0V, f = 200KHz	--	130	--	pF
Output Capacitance	C_{OSS}		--	20	--	
Reverse Transfer Capacitance	C_{RSS}		--	16	--	
Diode Forward Voltage(1)	V_{SD}	V_{GS} = 0 V, I_S = 150mA	--	0.6	1.2	V

● **Typical Performance Characteristics**

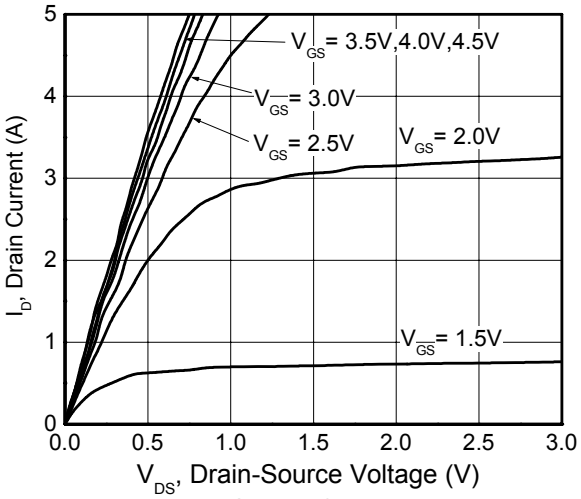


Figure 1. Output Characteristics

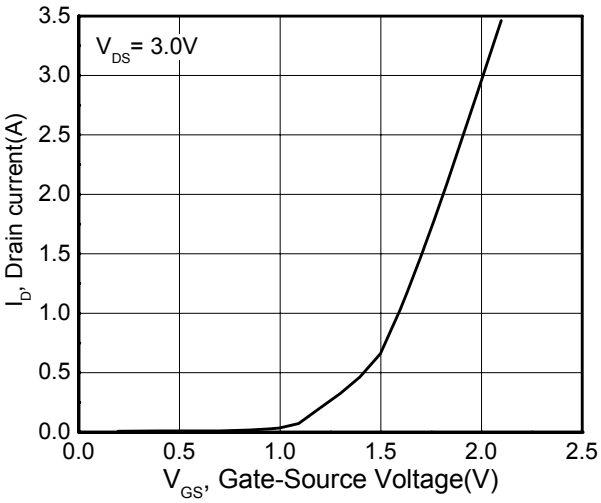


Figure 2. Transfer Characteristics

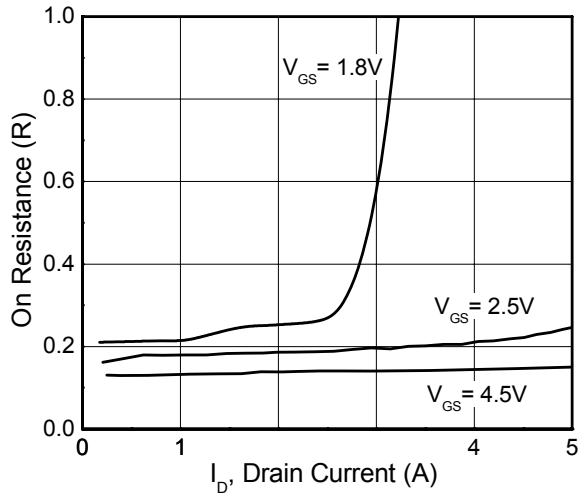


Figure 3. On-Resistance vs. Drain Current

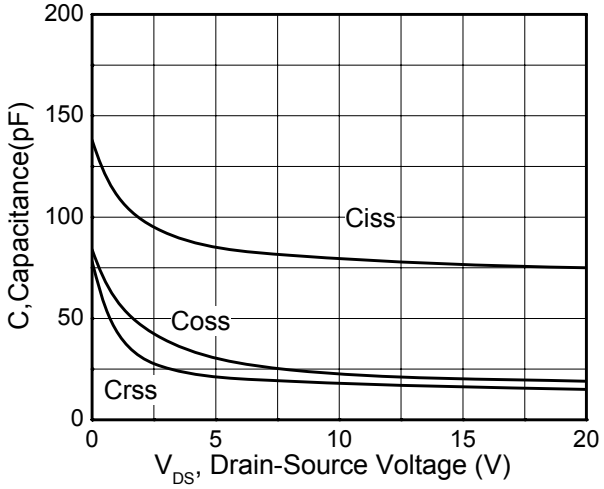


Figure 4. Capacitance

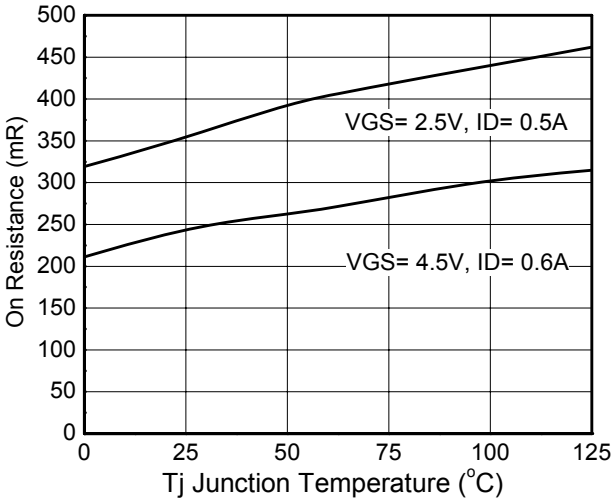


Figure 5 . On-Resistance vs. Temperature

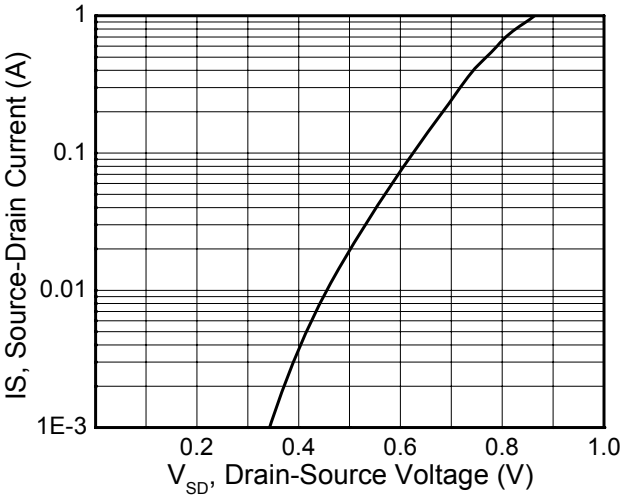


Figure 6. Diode Forward Characteristics

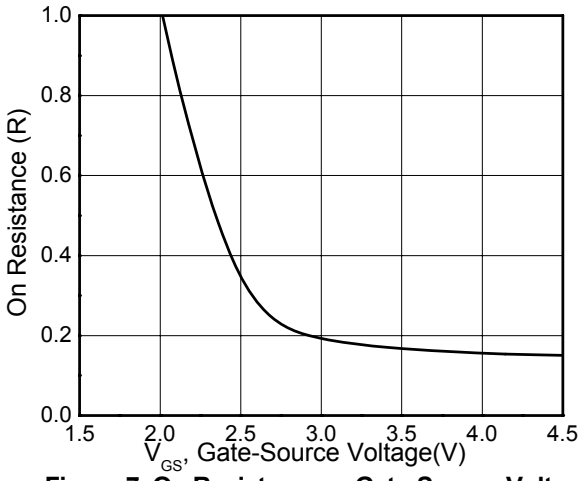


Figure 7. On Resistanc vs. Gate-Source Voltage

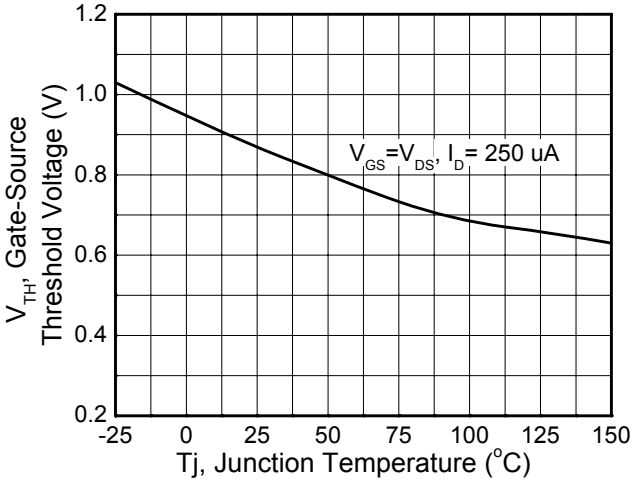


Figure 8. Gate Threshold vs. Temperature

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