AO3404

PUOLOP 迪浦

30V N-Channel Enhancement Mode MOSFET

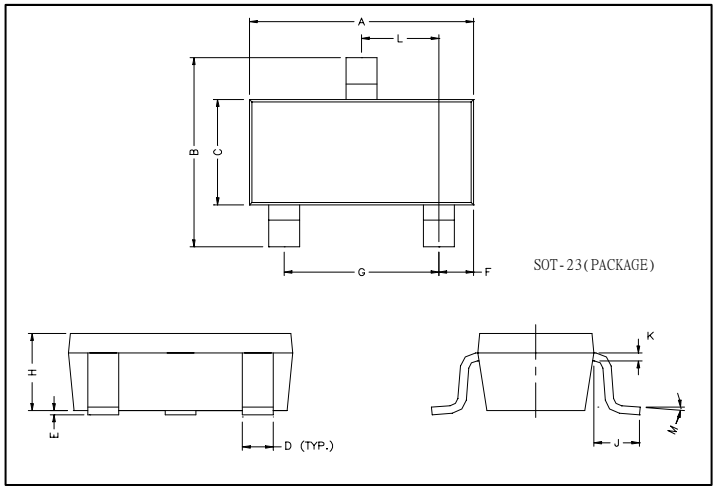
VDS= 30V
RDS(ON), Vgs@10V, Ids@5.8A < 38m
RDS(ON), Vgs@4.5V, Ids@5.0A < 52m

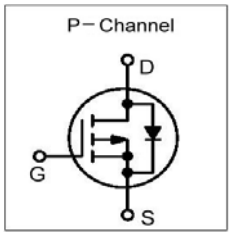
Features

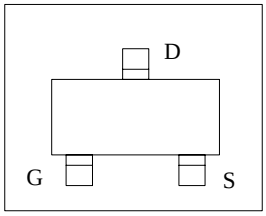
Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

Package Dimensions







REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.70	3.10	G	1.90	REF.
B	2.40	2.80	H	1.00	1.30
C	1.40	1.60	K	0.10	0.20
D	0.35	0.50	J	0.40	-
E	0	0.10	L	0.85	1.15
F	0.45	0.55	M	0°	10°

ABSOULTE MAXIMUM RATINGS (Ta = 25℃ Unless otherwise noted)

Parameter		Symbol	Typical	Unit
Drain-Source Voltage		VDSS	30	V
Gate-Source Voltage		VGSS	±20	V
Continuous Drain Current (TJ=150℃)	TA=25℃ TA=70℃	ID	5.8 4.9	A
Pulsed Drain Current		IDM	30	A
Power Dissipation	TA=25℃ TA=70℃	PD	1.4 1.0	W
Maximum Body-Diode Continuous Current			2.5	A
Operation Junction Temperature		TJ	-55	C
Storage Temperature Range		TSTG	-55/150	C
Thermal Resistance-Junction to Ambient		RθJA	150	W

ELECTRICAL CHARACTERISTICS (Ta = 25℃ Unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V,I_D=250uA	30			V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250uA	1.1		3.0	V
Gate Leakage Current	I_{GSS}	V_{DS}=0V,V_{GS}=±20V			±100	nA
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=30V,V_{GS}=0V			1	uA
On-State Drain Current	$I_{D(on)}$	V_{DS}≦5V,V_{GS}=4.5V	10			A
Drain-source On-Resistance	$R_{DS(on)}$	V_{GS}=10V,I_D=5.8A V_{GS}=4.5V,I_D=5.0A		33 37	38 52	mΩ
Diode Forward Voltage	V_{SD}	I_S=1.0A,V_{GS}=0V		0.7	1.1	V
Dynamic						
Total Gate Charge	Qg	V_{DS}=15V,V_{GS}=4.5V I_D≡5.8A		9.7	12	nC
Gate-Source Charge	Qgs			1.6		
Gate-Drain Charge	Qgd			3.1		
Turn-On Time	$t_{d(on)}$	V_{GS}=10V, V_{DS}=10V, R_L=2.7Ω,V_{GEN}=4.5V		3.3	5	nS
	t_r			4.8	7	
Turn-Off Time	$t_{d(off)}$			26.3	40	
	t_f			4.1	6	

TYPICAL CHARACTERICTICS

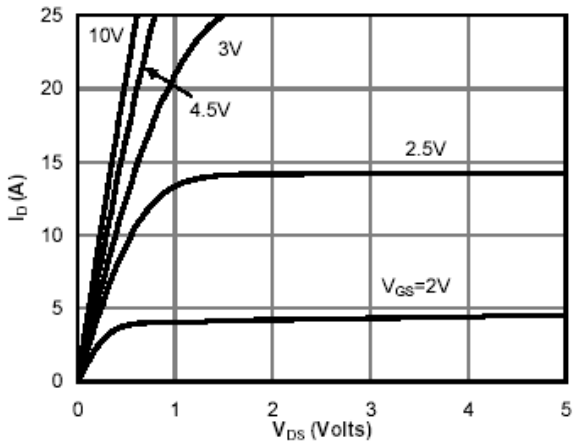


Fig 1: On-Region Characteristics

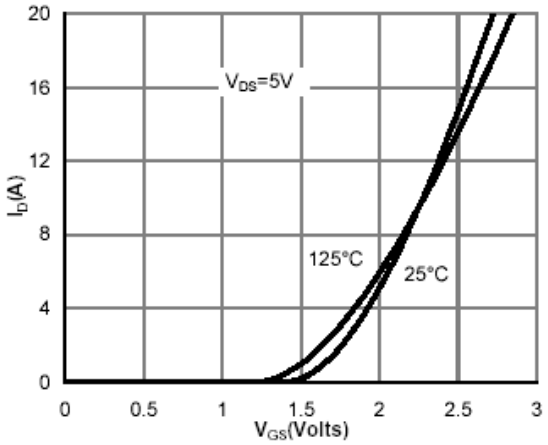


Figure 2: Transfer Characteristics

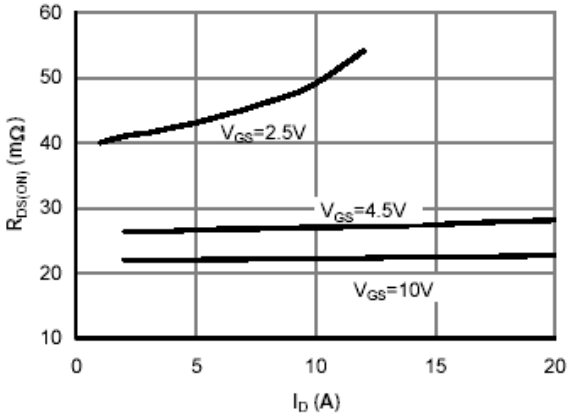


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

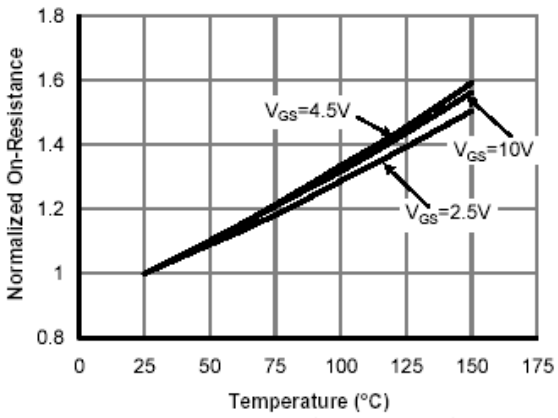


Figure 4: On-Resistance vs. Junction Temperature

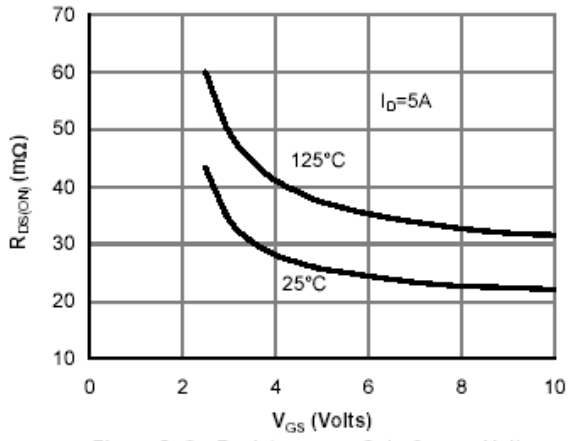


Figure 5: On-Resistance vs. Gate-Source Voltage

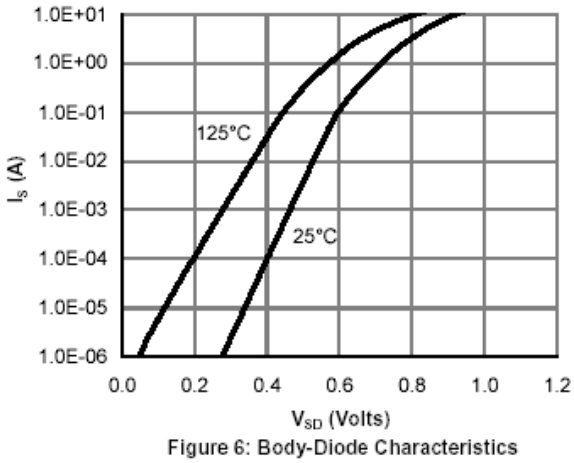


Figure 6: Body-Diode Characteristics

TYPICAL CHARACTERICTICS

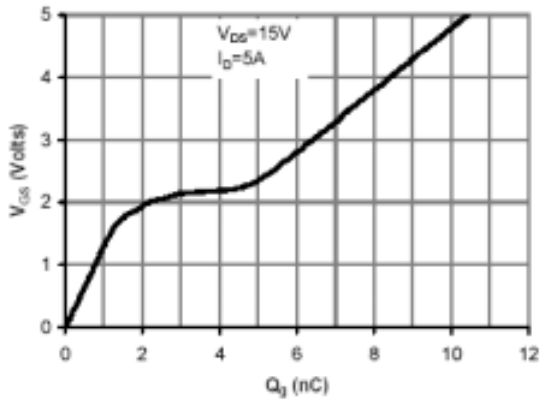


Figure 7: Gate-Charge Characteristics

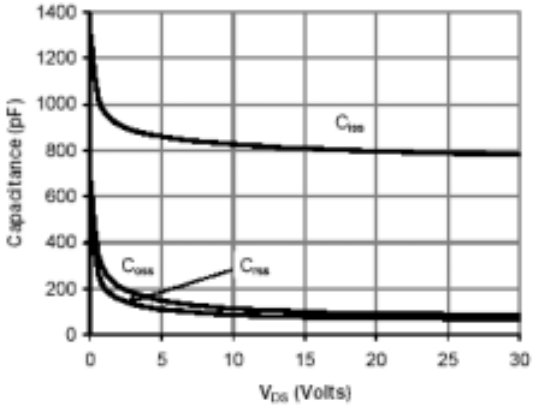


Figure 8: Capacitance Characteristics

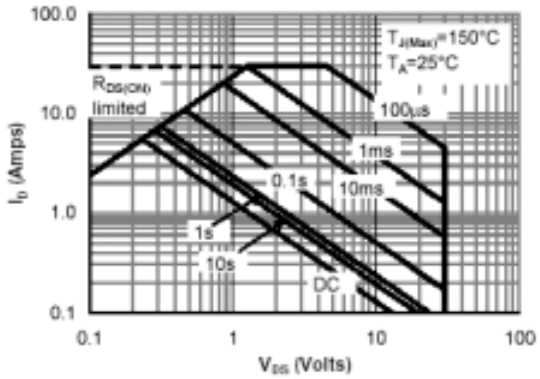


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

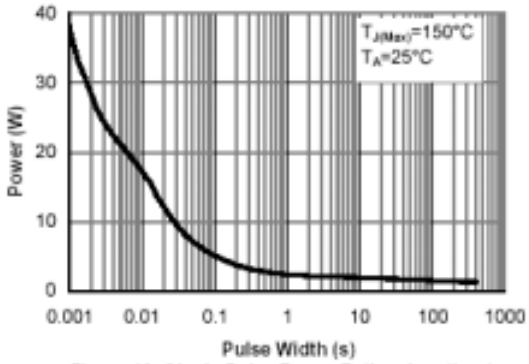


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

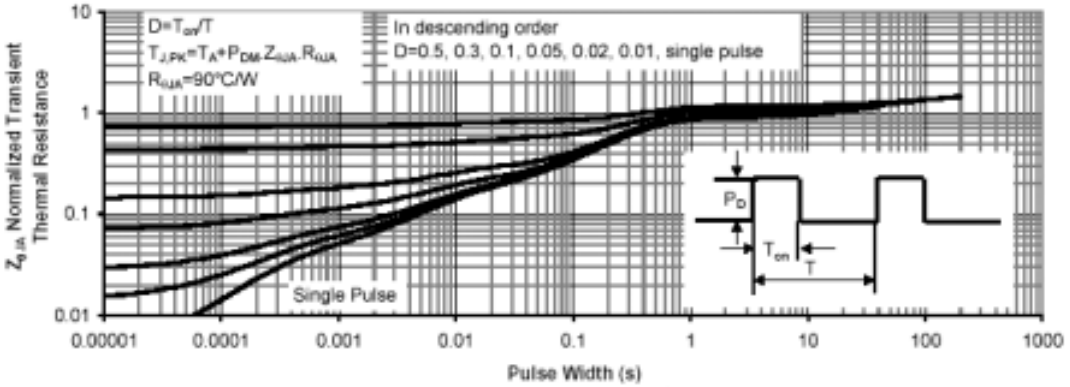


Figure 11: Normalized Maximum Transient Thermal Impedance

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