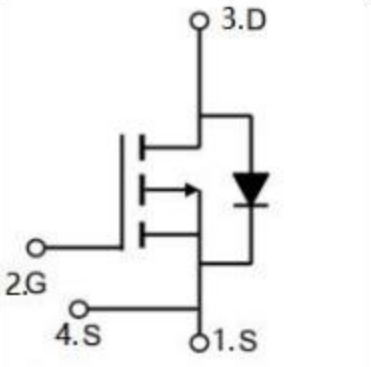
ANMP006P0095ST

95V 6mΩ MOSFET SOT-227 Module

DESCRIPTION

The ANMP006P0095ST uses new technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 4.5V.

This device is suitable for use as a Battery protection or in other Switching application.



GENERAL FEATURES

V_{DS}= -95V I_D= -200A

$R_{DS(on)}$< 8mΩ@V_{GS}= 10V (Type： 6mΩ)

MOSFET

ABSOLUTE MAXIMUM RATINGS(*Tc = 25 °C unless otherwise specified)*

Symbol	Parameter/ Test Conditions	Values	Unit
V_{DS}	Drain-Source Voltage	-95	V
V_{GS}	Gate-Source Voltage	±20	
I_D@T_C=25℃	Continuous Drain Current, V_{GS} @ -10V[1]	-200	A
I_D@T_C= 100℃	Continuous Drain Current, V_{GS} @ -10V[1]	-132	
IDM	Pulsed Drain Current[2]	-300	A
EAS	Single Pulse Avalanche Energy[3]	358	mJ
I_{AS}	Avalanche Current	-100	A
P_D@T_C=25℃	Total Power Dissipation[4]	560	W
T_{STG}	Storage Temperature Range	-55 to 150	℃
T_J	Operating Junction Temperature Range	-55 to 150	℃
$R_{\theta JA}$	Thermal Resistance Junction-Ambient 1	62	℃/W
$R_{\theta JC}$	Thermal Resistance Junction-Case1	1.1	℃/W

P-CHANNEL MOSFET

ELECTRICAL CHARACTERISTICS *(T c = 2 5 ° C unless otherwise specified)*

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V(BR)DSS	Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=-250μA	-95	-102		V
IDSS	Zero Gate Voltage Drain Current	V_{DS}=-95V, V_{GS}=0V			-1.0	μA
IGSS	Gate to Body Leakage Current	V_{DS}=0V, V_{GS}= ±20V			±200	nA
VGS(th)	Gate Threshold Voltage	V_{DS}=VGS, I_D=-250μA	-1.0	-1.6	-2.5	V
RDS(on)	Static Drain-Source on-Resistance	V_{GS}=-10V, I_D=-20A		6	8	mΩ
		V_{GS}=-4.5V, I_D=-10A		8	12	mΩ
Ciss	Input Capacitance	V_{DS}=-50V, V_{GS}=0V, f=1.0MHz		8400		pF
Coss	Output Capacitance			1820		pF
Crss	Reverse Transfer Capacitance			110		pF
Qg	Total Gate Charge	V_{DS}=-50V, I_D=-20A,V_{GS}=-10V		116		nC
Qgs	Gate-Source Charge			25		nC
Qgd	Gate-Drain(“Miller”) Charge			20.4		nC
td(on)	Turn on Delay Time	V_{DD}=-50V, I_D=-5A, R_G=6Ω, V_{GS}=-10V		40		ns
tr	Rise Time			47		ns
td(off)	Turn off Delay Time			200		ns
tf	Fall Time			63		ns
IS	Maximum Continuous Drain to Source Diode Forward Current				-200	A
ISM	Maximum Pulsed Drain to Source Diode Forward Current				-600	A
VSD	Drain to Source Diode Forward Voltage	V_{GS}=0V, I_S=-6.2A			-1.2	V
trr	Body Diode Reverse Recovery Time	TJ=25℃, IF=-10A,dI/dt=100A/μs		42		ns
Qrr	Body Diode Reverse Recovery Charge			40		nC

Note：
1、The data tested by surface mounted on a 1 inch 2 FR-4 board with 2OZ copper.
2、The data tested by pulsed , pulse width ≤ 300us , duty cycle ≤ 2%
3、The EAS data shows Max. rating . The test condition is V_{DD} =-72V,V_{GS} =-10V,L=0.1mH,IAS =-100A
4、The power dissipation is limited by 150℃ junction temperature
5、The data is theoretically the same as ID and IDM , in real applications , should be limited by total power dissipation.

Typical Characteristics

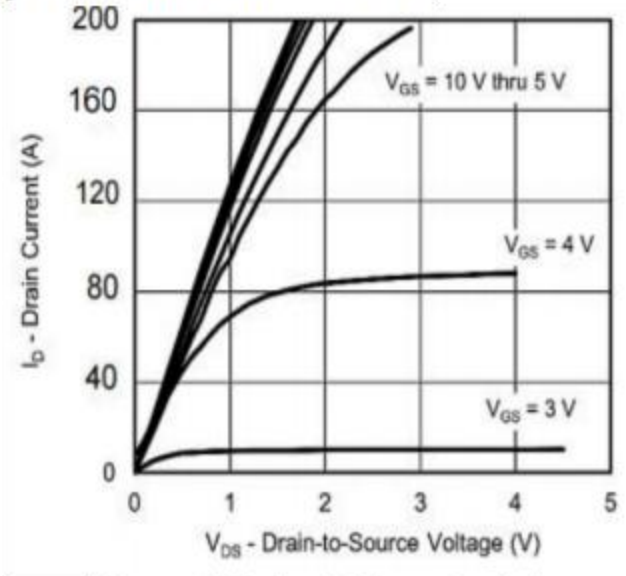


Figure 1:Output Characteristics

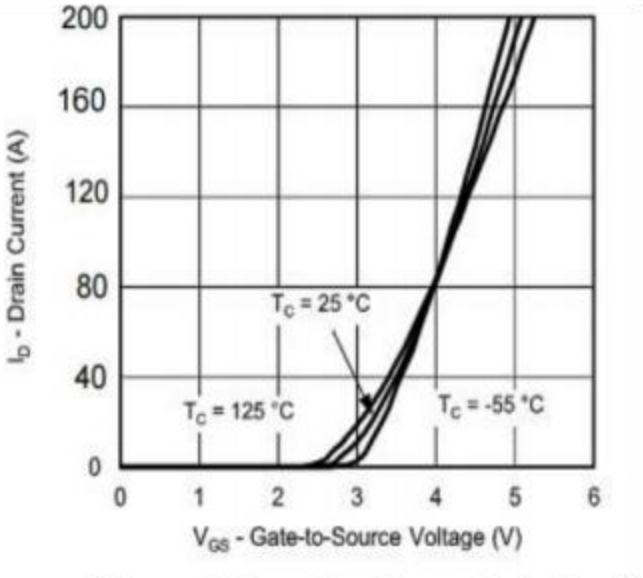


Figure 2:Transfer Characteristics

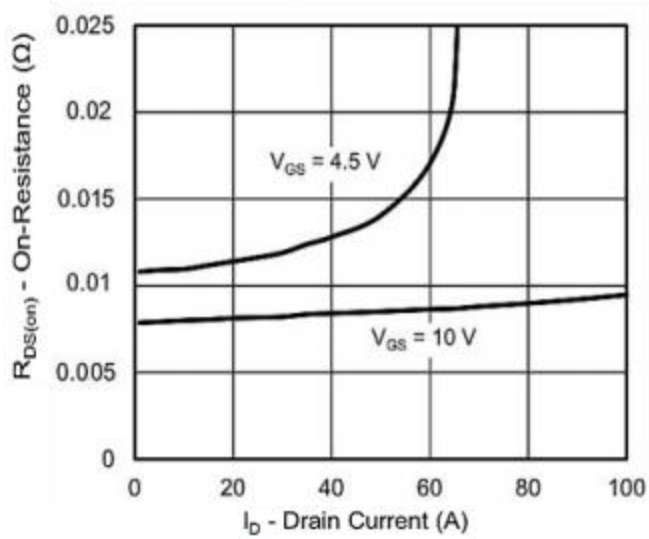


Figure 3:On-Resistance vs. Drain Current

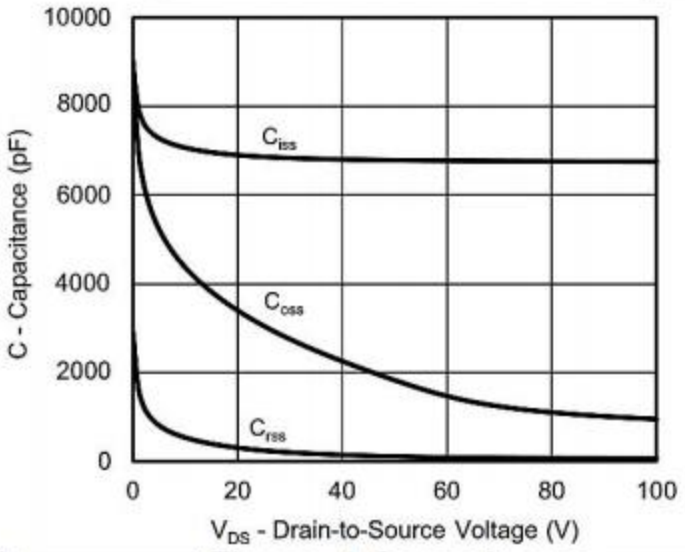


Figure 4:Capacitance

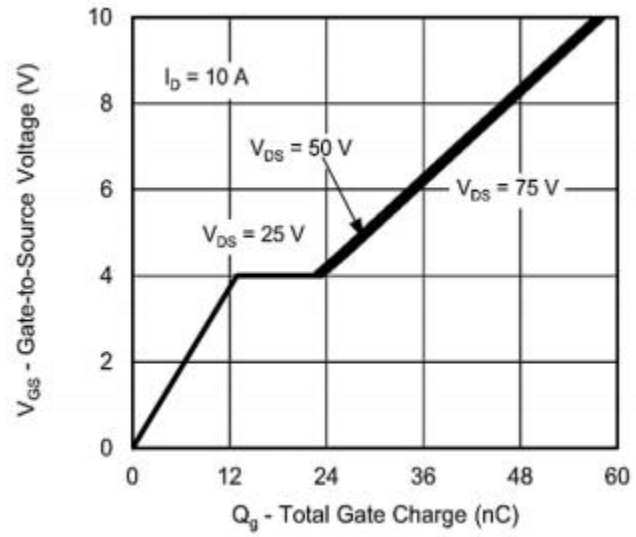


Figure 5:Gate Charge

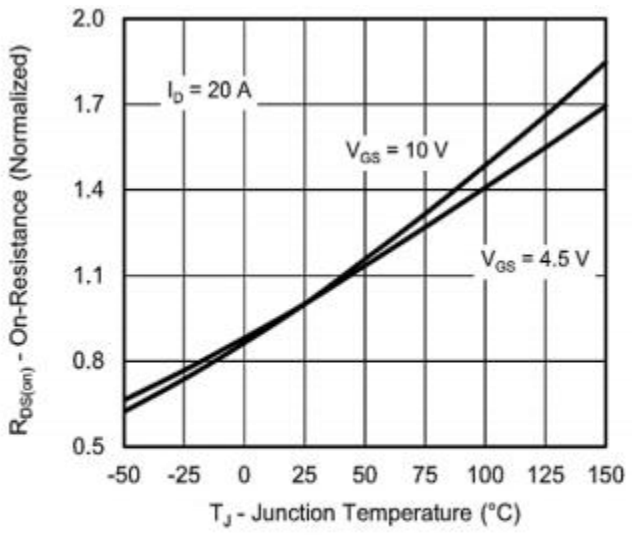


Figure 6:On-Resistance vs. Junction Temperature

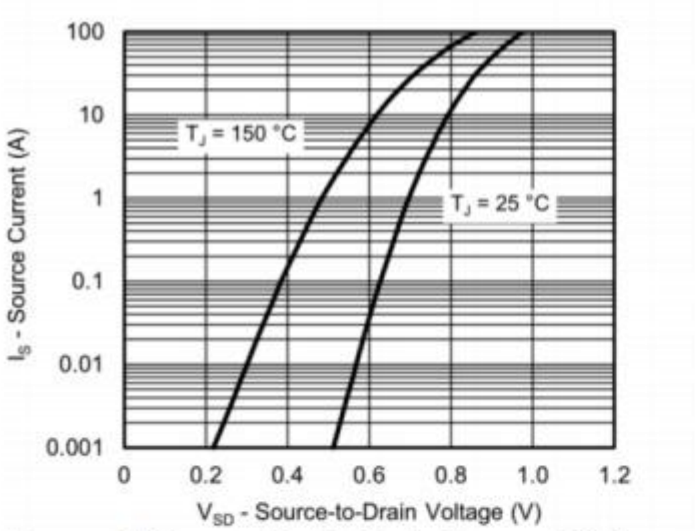


Figure 7: Source-Drain Diode Forward Voltage

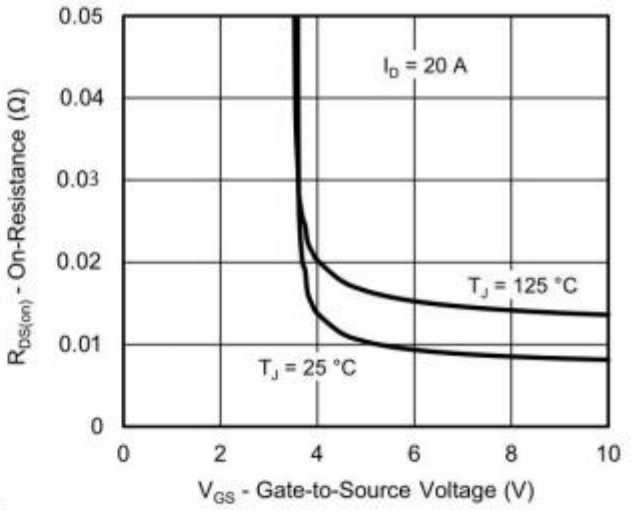


Figure8: **On-Resistance vs. Gate-to-Source Voltage**

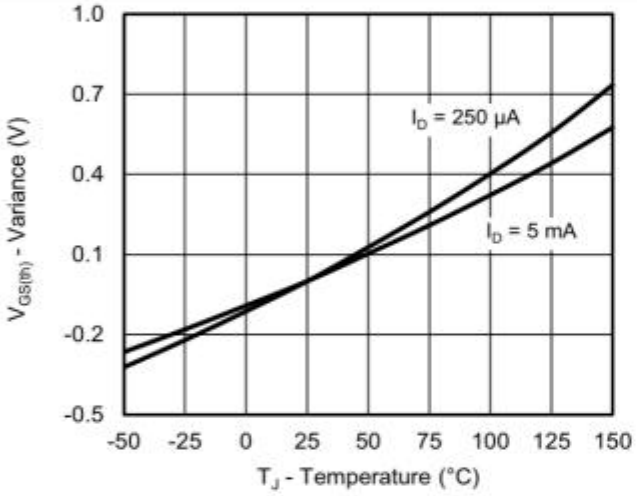


Figure 9:Threshold Voltage

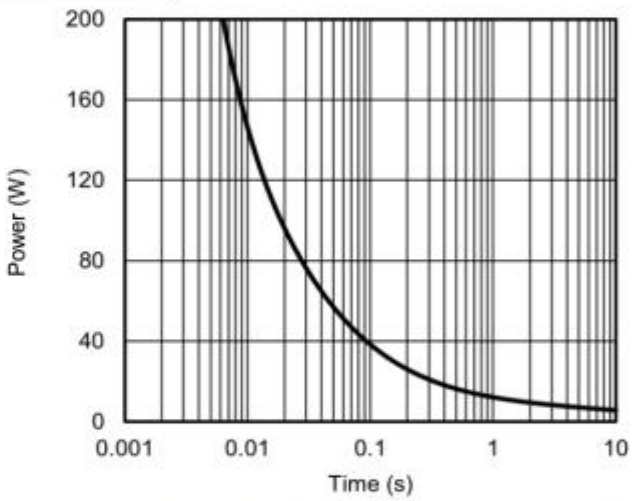


Figure10:Single Pulse Power, Junction-to-Ambient

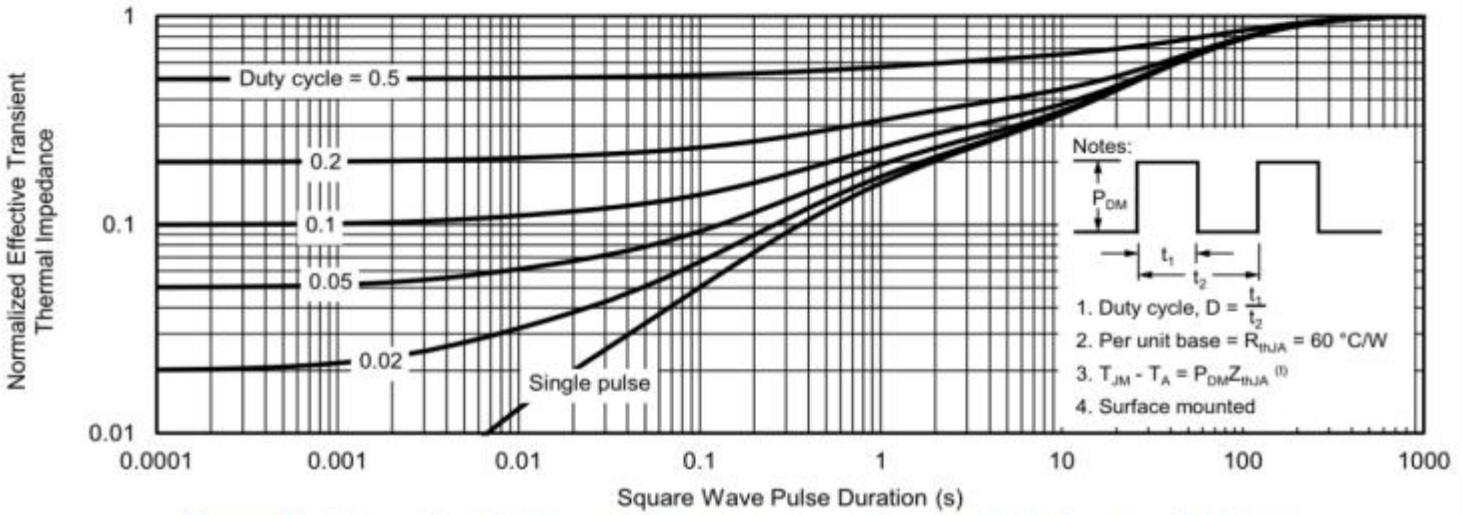
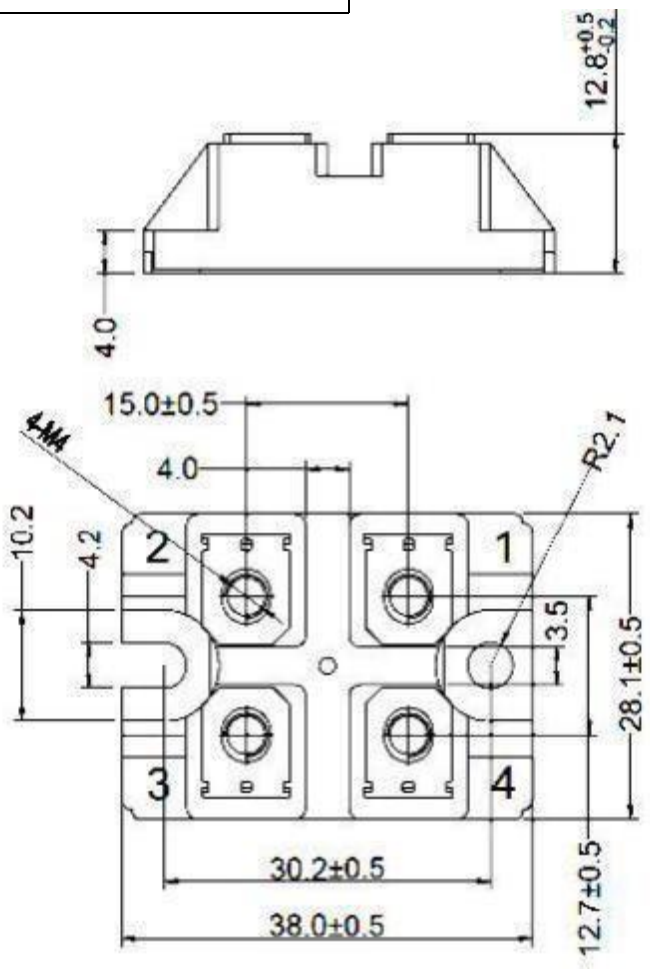


Figure11:Normalized Thermal Transient Impedance, Junction-to-Ambient

Package Dimensions: SOT-227



Dimensions in (mm)

Figure 9 . Package Outline