



DESCRIPTION

Available in SOT-363 package.

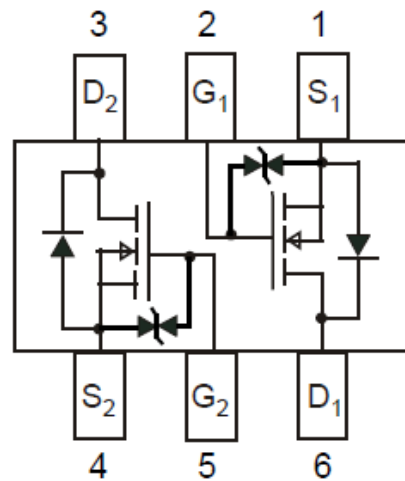
FEATURES

- ESD Protected: 1000V
- Available in SOT-363 package

ORDERING INFORMATION

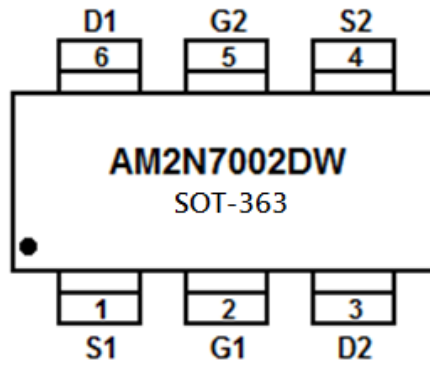
Package Type	Part Number	
SOT-363 (SC70-6)	C6	AM2N7002DWC6R
		AM2N7002DWC6VR
Note	V: Halogen free Package R: Tape & Reel SPQ: 3,000pcs/Reel	
AiT provides all RoHS products Suffix “ V ” means Halogen free Package		

N CHANNEL MOSFET





PIN DESCRIPTION



Top View

Pin #	Symbol	Function
1	S1	Source1
2	G1	Gate1
3	D2	Drain2
4	S2	Source2
5	G2	Gate2
6	D1	Drain1



ABSOLUTE MAXIMUM RATINGS

V_{DSS} , Drain-Source Voltage	60Vdc
V_{DGR} , Drain-Gate Voltage ($R_{GS} = 1.0M\Omega$)	60Vdc
Drain Current	
I_D , Continuous $T_C = 25^\circ C$ NOTE1	$\pm 115mA$ dc
$T_C = 100^\circ C$ NOTE1	$\pm 75mA$ dc
I_{DM} , Pulsed NOTE2	$\pm 800mA$ dc
Gate-Source Voltage	
V_{GS} , Continuous	$\pm 20V$ dc
V_{GSM} , Non-repetitive ($t_p \leq 50\mu s$)	$\pm 40V$ pk

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

THERMAL CHARACTERISTICS

Parameter	Symbol	Max.	Unit
Total Device Dissipation	P_D	380	mW
Per Device		250	
FR-5 Board NOTE1			
$T_A = 25^\circ C$			
Derate above $25^\circ C$		3.0	mW/ $^\circ C$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	328	$^\circ C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to + 150	$^\circ C$



ELECTRICAL CHARACTERISTICS

T_A = 25°C, unless otherwise specified

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit	
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0, I _D = 10μAdc	60	-	-	Vdc	
Zero Gate Voltage Drain Current	I _{DSS}	V _{GS} = 0, V _{DS} = 60Vdc	T _J = 25°C	-	-	1.0	μAdc
		T _J = 125°C	-	-	500		
Gate–Body Leakage Current, Forward	I _{GSSF}	V _{GS} = 20Vdc	-	-	1	μAdc	
Gate–Body Leakage Current, Reverse	I _{GSSR}	V _{GS} = -20Vdc	-	-	-1	μAdc	
ON CHARACTERISTICS NOTE2							
Gate Threshold Voltage	V _{GS(TH)}	V _{DS} = V _{GS} , I _D = 250μAdc	1.0	-	2.0	Vdc	
On-State Drain Current	I _{D(ON)}	V _{DS} ≥ 2.0V _{DS(ON)} , V _{GS} =10Vdc	500	-	-	mA	
Static Drain–Source On-State Voltage	V _{DS(ON)}	V _{GS} = 10Vdc, I _D = 500mAdc	-	-	3.75	Vdc	
		V _{GS} = 5.0Vdc, I _D = 50mAdc	-	-	0.375		
Static Drain–Source On-State Resistance	r _{DS(ON)}	V _{GS} = 10V, I _D = 500mAdc	T _J = 25°C	-	-	7.5	Ohms
		T _J = 125°C	-	-	13.5		
		V _{GS} = 5.0Vdc, I _D = 50mAdc	T _J = 25°C	-	-	7.5	
		T _J = 125°C	-	-	13.5		
Forward Transconductance	g _{FS}	V _{DS} ≥2.0V _{DS(ON)} ,I _D =200mAdc	80	-	-	mS	
DYNAMIC CHARACTERISTICS							
Input Capacitance	C _{ISS}	V _{DS} = 25Vcd,	-	-	50	pF	
Output Capacitance	C _{OSS}	V _{GS} = 0,	-	-	25		
Reverse Transfer Capacitance	C _{RSS}	f = 1.0MHz	-	-	5.0		
SWITCHING CHARACTERISTICS NOTE2							
Turn-On Delay Time	t _{d(ON)}	V _{DD} = 25Vdc , I _D ≅500mAdc, R _G = 25Ω, R _L = 50Ω,	-	-	20	ns	
Turn-Off Delay Time	t _{d(OFF)}	V _{GEN} = 10V	-	-	40		
BODY-DRAIN DIODE RATINGS							
Diode Forward On-Voltage	V _{SD}	I _S = 115mAdc, V _{GS} = 0V	-	-	-1.5	Vdc	
Source Current Continuous	I _S	Body Diode	-	-	-115	mAdc	
Source Current Pulsed	I _{SM}		-	-	-800	mAdc	

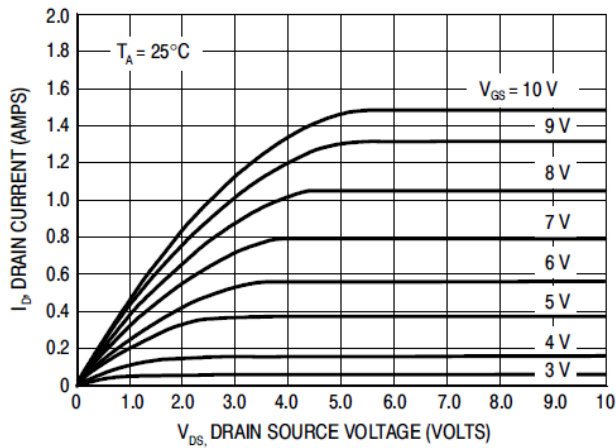
NOTE1: FR-5 = 1.0 x 0.75 x 0.062 in

NOTE2: Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2.0%.

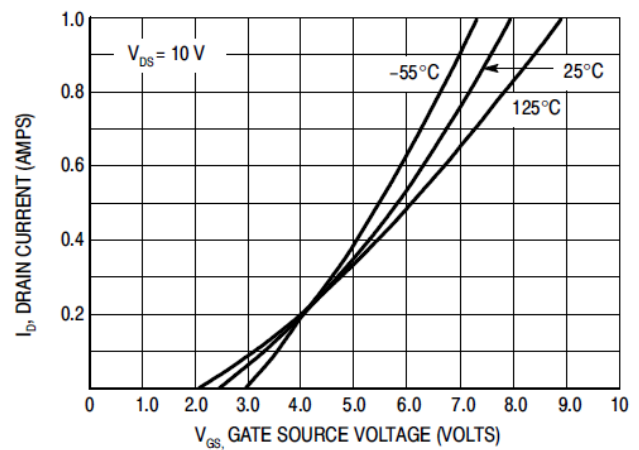


TYPICAL PERFORMANCE CHARACTERISTICS

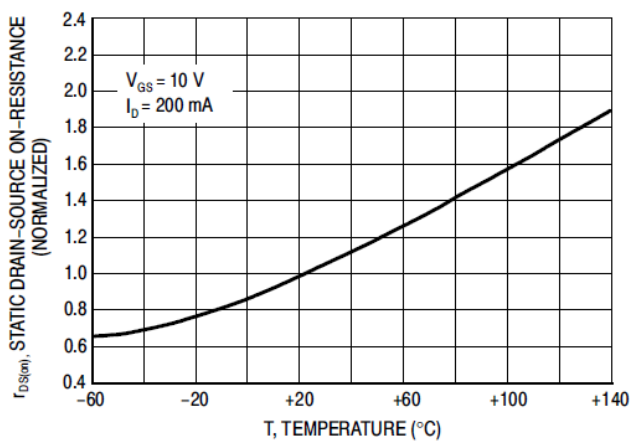
1. Ohmic Region



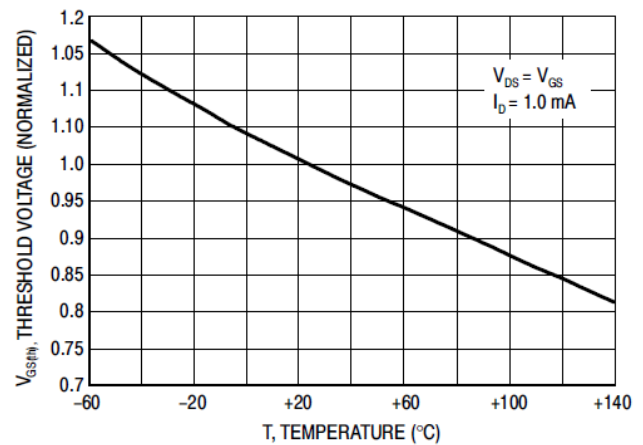
2. Transfer Characteristics



3. Temperature vs. Static Drain-Source On-Resistance



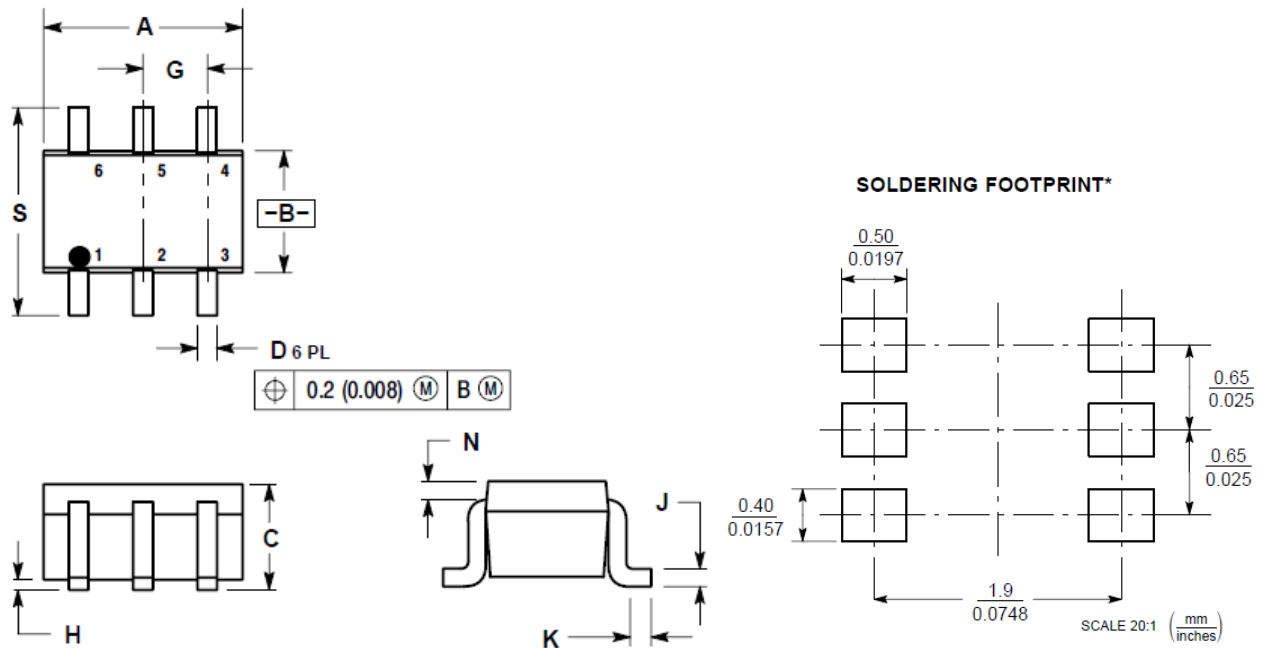
4. Temperature vs. Gate Threshold Voltage





PACKAGE INFORMATION

Dimension in SOT-363 (SC70-6) Package (Unit: mm)



SYMBOL	MIN	MAX
A	1.800	2.200
B	1.150	1.350
C	0.800	1.100
D	0.100	0.300
G	0.650 BSC	
H	-	0.100
J	0.100	0.250
K	0.100	0.300
N	0.200 REF	
S	2.000	2.200



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