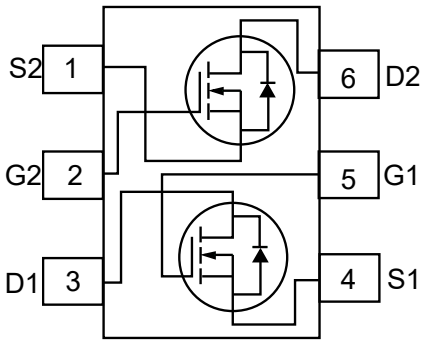
Description

The MOSFET provide the best combination of fast switching,
low on-resistance and cost-effectiveness.

MOSFET Product Summary		
V_{DS}(V)	$R_{DS(on)}$(Ω)	I_D(A)
20	0.29@ V_{GS}=4.5V	0.5

SOT-363



Absolute maximum rating@25℃

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	20	V
Gate-Source Voltage		V_{GS}	8	V
Continuous Drain Curren(T_J=150℃)	Continuous	I_D	0.5	A
	Pulsed		1.5	
Maximum Power Dissipation		P_D	0.3	W
Operating Junction and Storage Temperature Range		T_J, T_{STG}	-55 to 150	℃
Thermal Characteristics				
Parameter		**Symbol**	**Maximum**	**Units**
Thermal Resistance, Junction-to-Ambient		$R_{\theta JA}$	415	℃/W

Electrical characteristics per line@25℃(unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Drain-Source Breakdown Voltage	BV_{DSS}	I_D =250μA,V_{GS}=0V	20		-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS} =20V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS} =0V,V_{GS}=8V	-	-	10	uA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =250μA	0.5	-	1.1	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D =0.5A		0.29	0.34	Ω
		V_{GS}=2.7V, I_D =0.2A		0.35	0.42	
On-State Drain Current	$I_{D(ON)}$	V_{GS}=2.7V,V_{DS} =5V	0.5			A
Forward Trans conductance	g_{FS}	V_{DS}=5V, I_D =0.5A		1.45		S
Total Gate Charge	Qg	V_{GS}=4.5V, V_{DS} =5V, I_D =0.5A		1.64	2.3	nC
Gate-Source Charge	Qgs			0.38		
Gate-Drain Charge	Qgd			0.45		
Input Capacitance	C_{ISS}	V_{GS}=0V, V_{DS} =10V, f=1MHz	-	50		pF
Output Capacitance	C_{OSS}		-	28		pF
Reverse Transfer Capacitance	C_{RSS}		-	9		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD} =5V, R_{GEN} =50Ω, V_{GS}=4.5V,I_D=0.5A	-	3	6	ns
Turn-Off Delay Time	$t_{d(off)}$		-	17	30	ns
Turn-On Rise Time	t_r		-	8.5	18	ns
Turn-On Fall Time	t_f		-	13	25	ns
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=0.25A		0.8	1.2	V
Maximum Body-Diode Continuous Current	I_S				0.25	A

Typical Characteristics

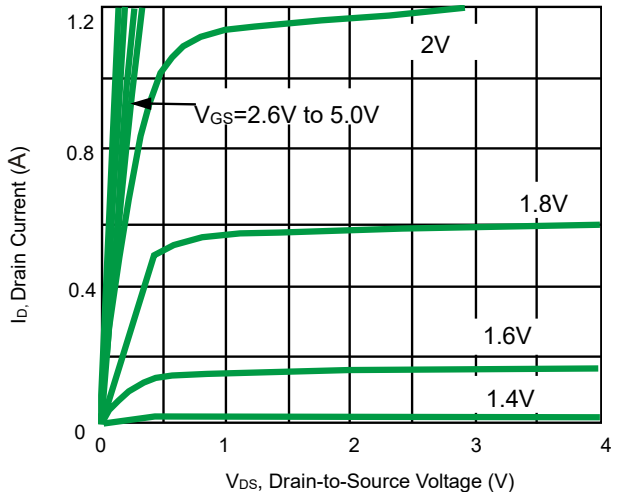


Fig 1. On-Region Characteristics

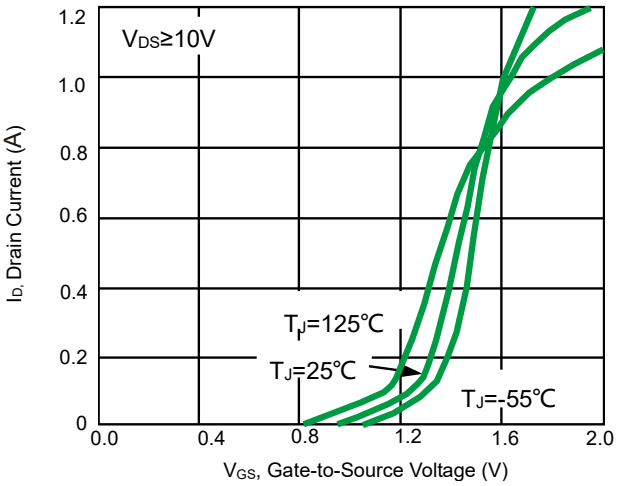


Fig 2. Transfer Characteristics

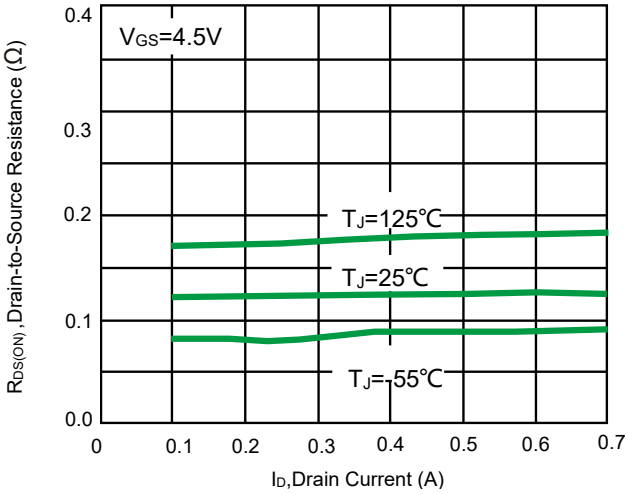


Fig 3. On-Resistance vs. Drain Current and Temperature

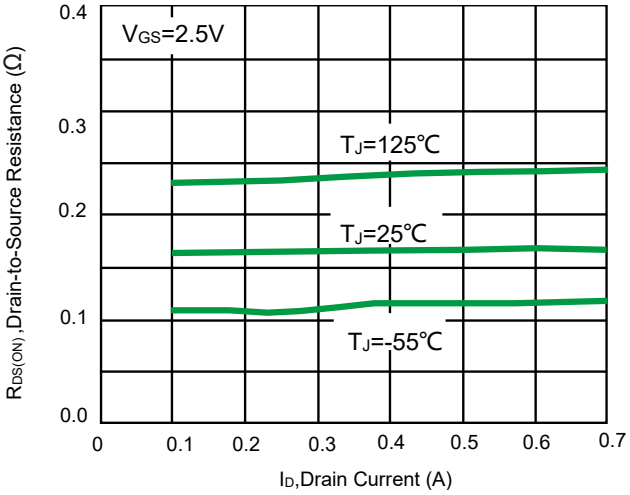


Fig 4. On-Resistance vs. Drain Current and Temperature

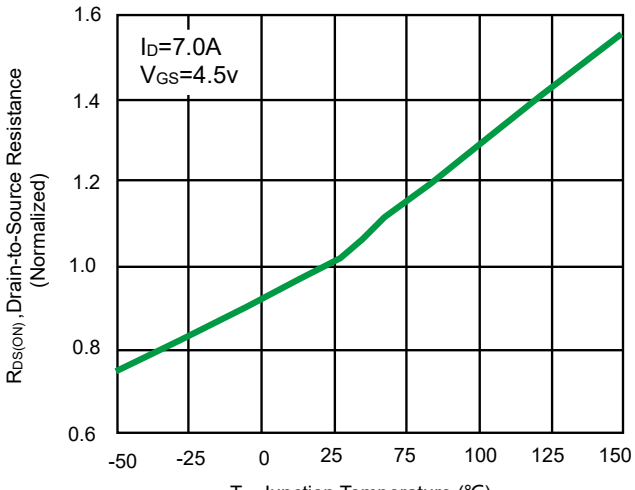


Fig 5. On-Resistance Variation with Temperature

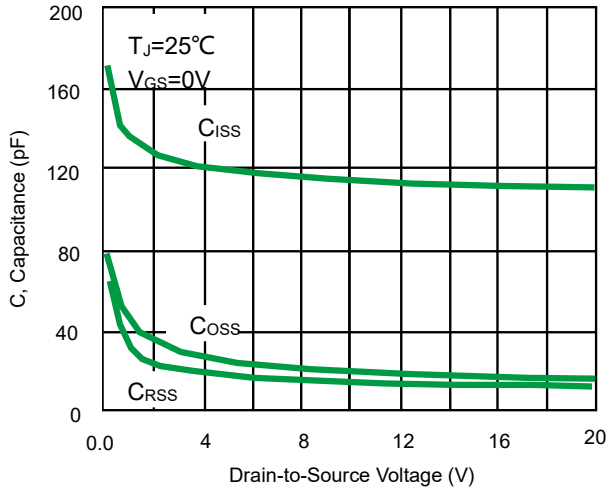


Fig 6. Characteristics Variation

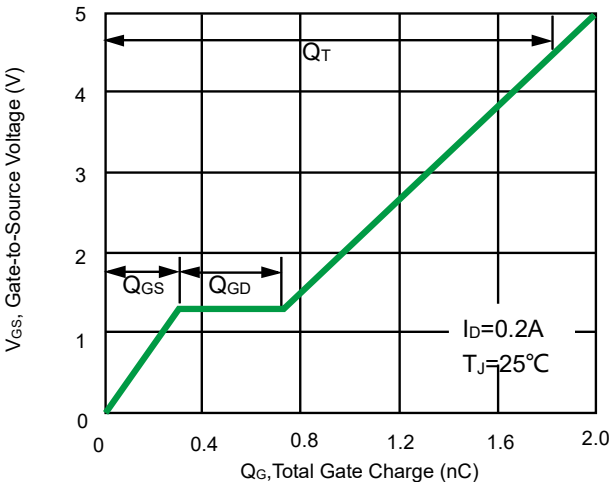


Fig 7. Gate-to-Source Voltage vs. Total Gate Charge

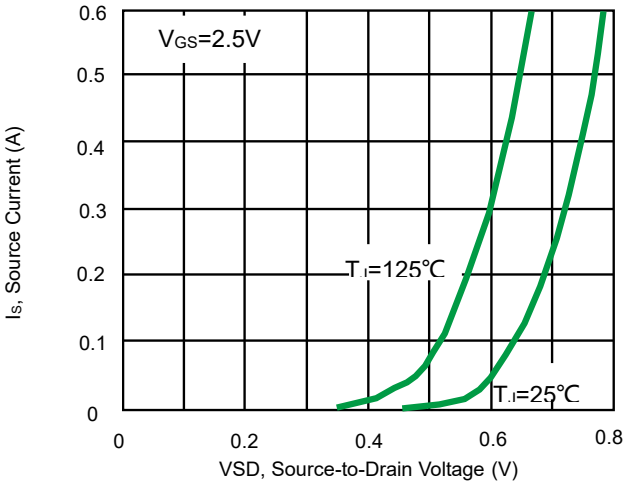


Fig 8. Diode Forward Voltage vs. Current

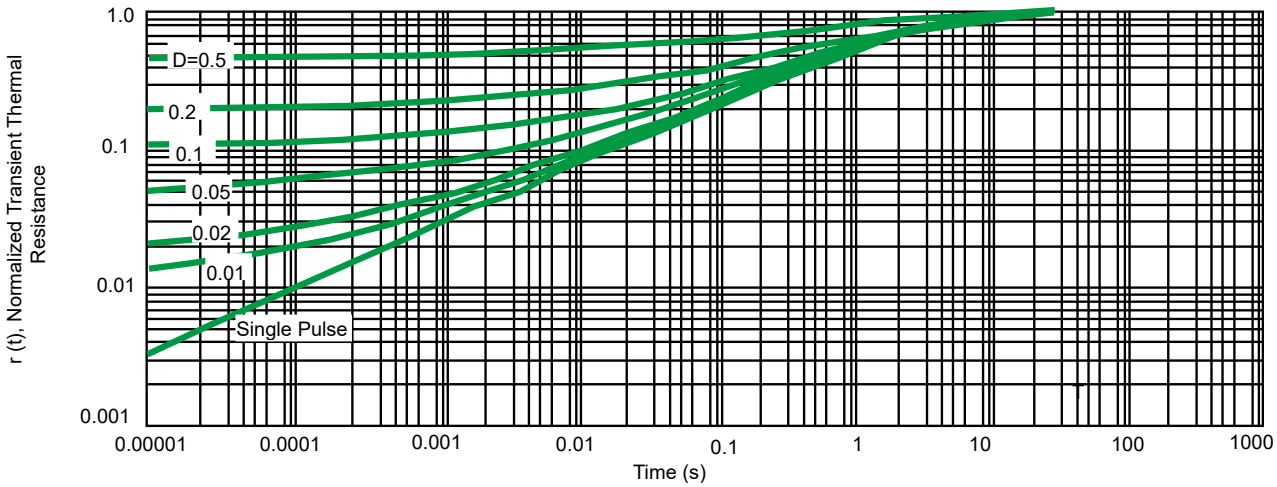
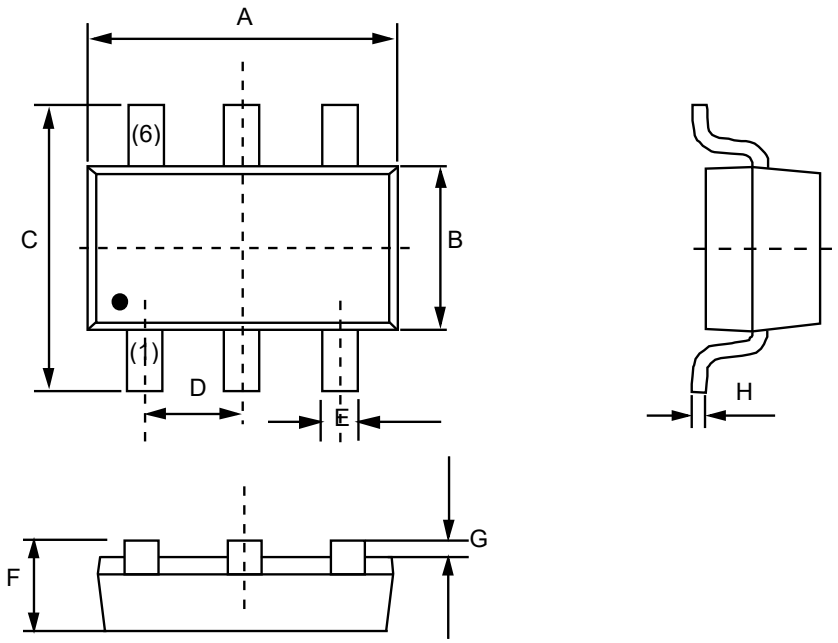


Fig 9.Normalized Thermal Response

Product dimension (SOT-363)

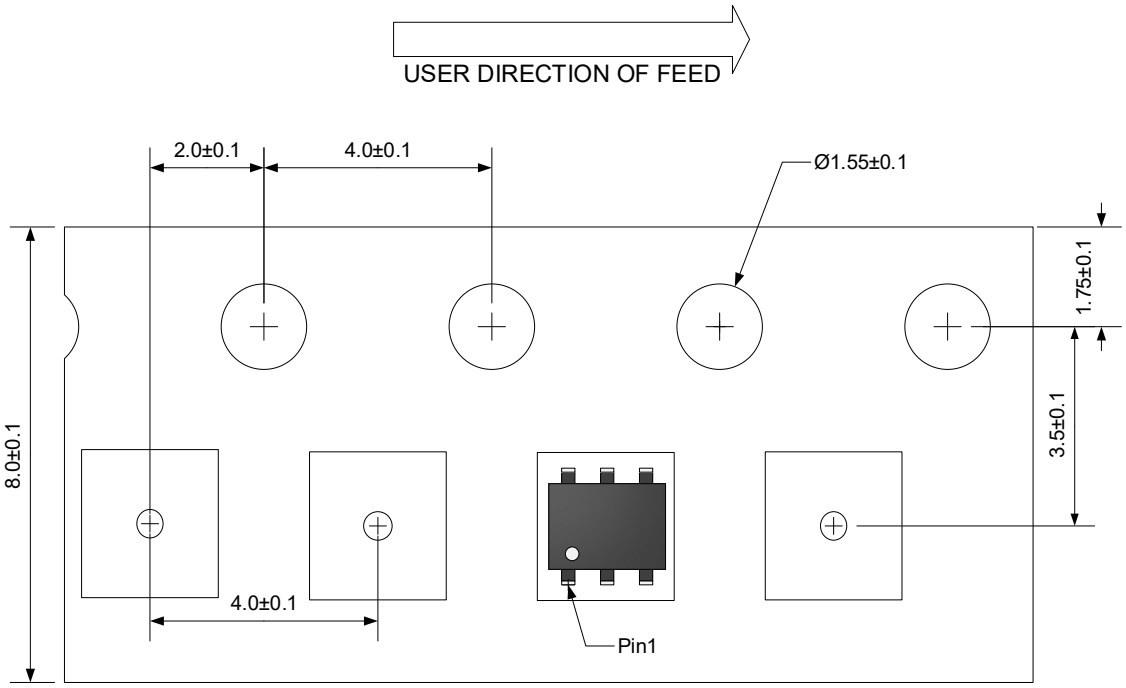


Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	2.0	2.2	0.079	0.087
B	1.15	1.35	0.045	0.053
C	2.15	2.45	0.085	0.096
D	0.65BSC		0.026BSC	
E	0.15	0.35	0.006	0.014
F	0.90	1.10	0.035	0.043
G	0.00	0.10	0.000	0.004
H	0.08	0.15	0.003	0.006

Ordering information

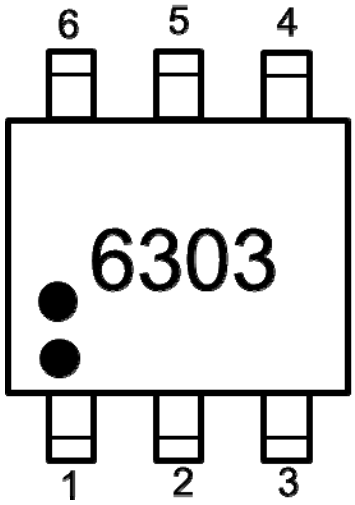
Device	Package	Shipping
PDNM6UT20V05	SOT-363 (Pb-Free)	3000 / Tape & Reel

Load With Information



Unit:mm

Marking Information



IMPORTANT NOTICE

Prisemi® and Prisemi® are registered trademarks of **Prisemi Electronics Co., Ltd (**Prisemi**)** ,Prisemi reserves the right to make changes without further notice to any products herein. Prisemi makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Prisemi assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. “Typical” parameters which may be provided in Prisemi data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including “Typicals” must be validated for each customer application by customer’s technical experts. Prisemi does not convey any license under its patent rights nor the rights of others. The products listed in this document are designed to be used with ordinary electronic equipment or devices, Should you intend to use these products with equipment or devices which require an extremely high level of reliability and the malfunction of with would directly endanger human life (such as medical instruments, aerospace machinery, nuclear-reactor controllers, fuel controllers and other safety devices), please be sure to consult with our sales representative in advance.

Website: http://www.prisemi.com

For additional information, please contact your local Sales Representative.