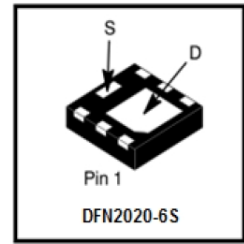


LP1216DT2AG

15V P-Channel Enhancement MOSFET

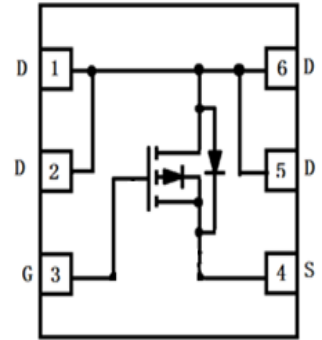
1. FEATURES

- Low Profile DFN 2.0x2.0x0.62 mm for Board Space Saving
- Ultra Low RDS(on)
- ESD Diode Protected Gate
- This is a Pb-Free Device
- We declare that the material of product are Halogen Free and compliance with RoHS requirements.



2. APPLICATIONS

- Battery Switch
- High Side Load Switch



3. ORDERING INFORMATION

Device	Marking	Shipping
LP1216DT2AG	P12	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25°C unless otherwise stated)

Parameter	Symbol	Limits	Unit
Drain-to-Source Voltage	VDSS	-15	V
Gate-to-Source Voltage	VGS	±12	V
Drain Current (Note 1)	ID	-10	A
Pulsed Drain Current (tp = 10 μs)	IDM	-40	A
Power Dissipation (Note 1)	PD	1.7	W
Operating Junction and Storage Temperature Range	TJ , TSTG	-55 ~ +150	°C

5. THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	RθJA	74	°C/W

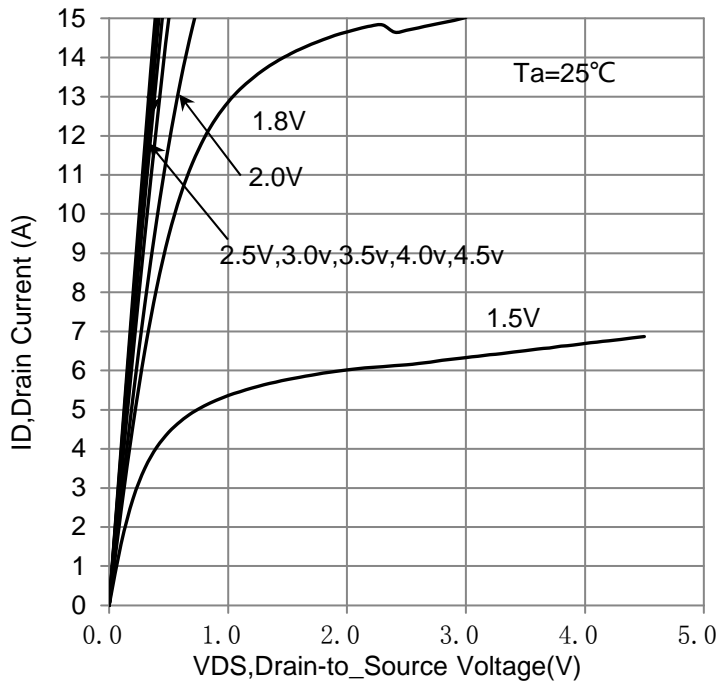
1.Surface mounted on "1.5 x 1.5" FR4 board using 1 sq in pad, 2 oz Cu.

6. ELECTRICAL CHARACTERISTICS (Ta= 25°C)

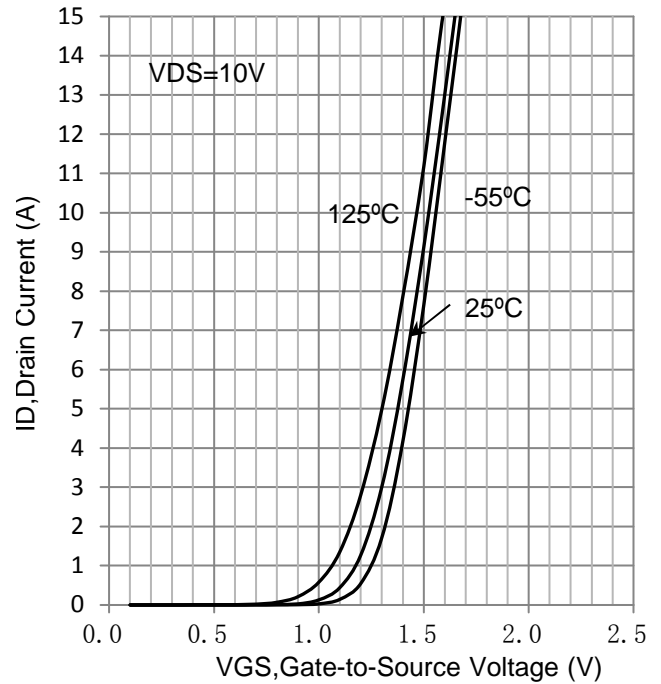
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Static					
Drain-Source Breakdown Voltage (VGS = 0 V, ID = -250 μA)	V(BR)DSS	-15	-	-	V
Zero Gate Voltage Drain Current (VDS = -12 V, VGS = 0 V, TJ = 25°C)	IDSS	-	-	-1	μA
Gate-to-Source Leakage Current (VDS = 0V, VGS = ±12V)	IGSS	-	-	±10	μA
Gate Threshold Voltage(Note 2) (VDS = VGS, ID = -250μA)	VGS(th)	-	-	-1	V
Drain-Source On-Resistance(Note 2) (VGS = -4.5 V, ID = -7 A) (VGS = -2.5 V, ID = -5 A) (VGS = -1.8 V, ID = -2 A)	RDS(ON)	-	16 19 35	19 24 48	mΩ
Dynamic					
Input Capacitance	(VDS = -15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	2132	-
Output Capacitance		Coss	-	383	-
Reverse Transfer Capacitance		Crss	-	343	-
Total Gate Charge	(VDS = -15 V, VGS = -4.5 V, ID = -4 A)	Qg(TOT)	-	25.7	-
Threshold Gate Charge		Qg(th)	-	1.48	-
Gate-Source Charge		Qgs	-	2.68	-
Gate-Drain Charge		Qgd	-	10.56	-
Turn-On Delay Time	(VGS = -4.5 V, VDD = -15 V, ID = -4A, RG = 1Ω)	td(on)	-	11	-
Rise Time		tr	-	19	-
Turn-Off Delay Time		td(off)	-	160	-
Fall Time		tf	-	92	-
Diode Forward Voltage (IS = -1 A, VGS = 0 V, TJ = 25°C) (IS = -1 A, VGS = 0 V, TJ = 125°C)	VSD	-	-	-1.5	V
		-	-0.5	-	

2. Pulse test: PW ≤ 300us duty cycle ≤ 2%.

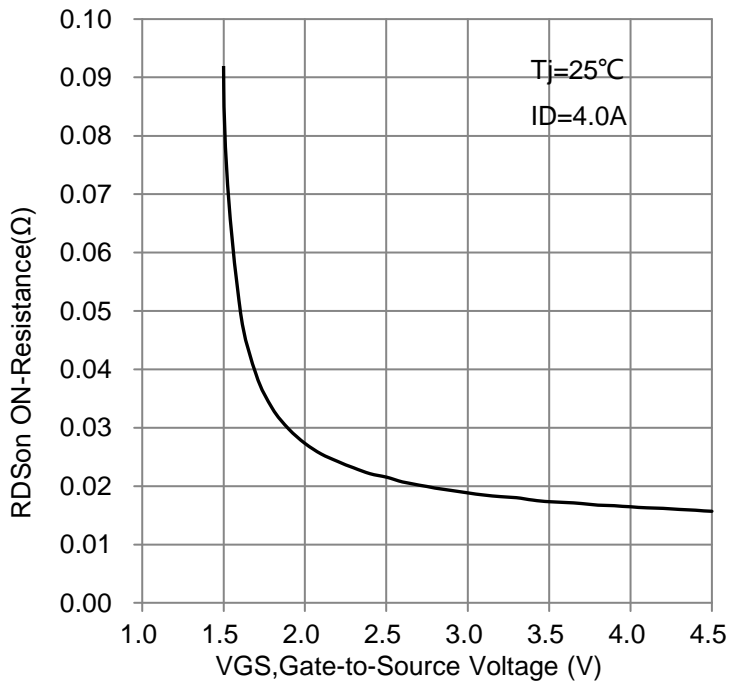
6. ELECTRICAL CHARACTERISTICS CURVES



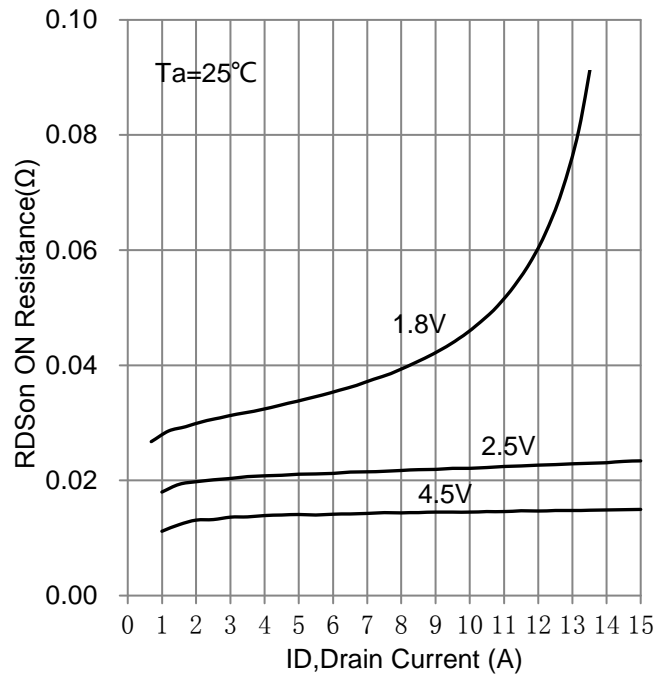
On-Region Characteristics



Transfer Characteristics

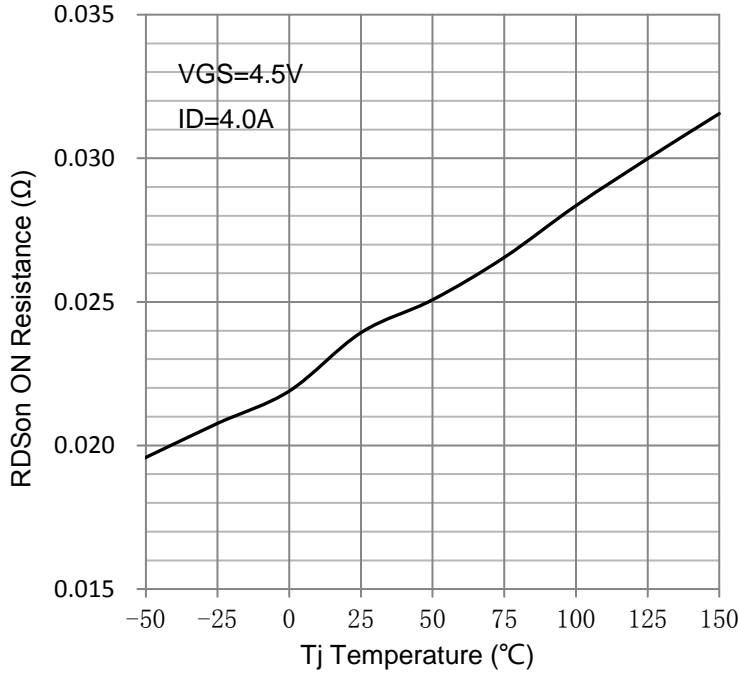


On-Resistance vs. Gate-to-Source Voltage

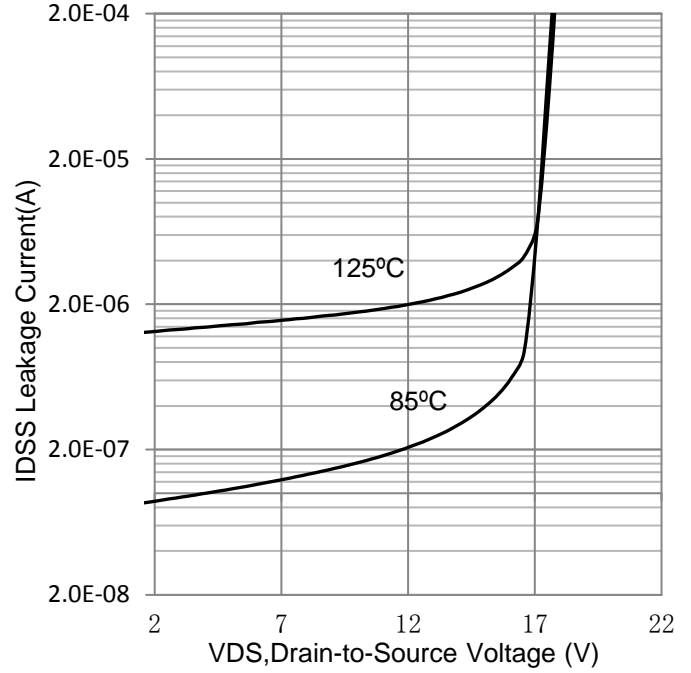


On-Resistance vs. Drain Current and Gate Voltage

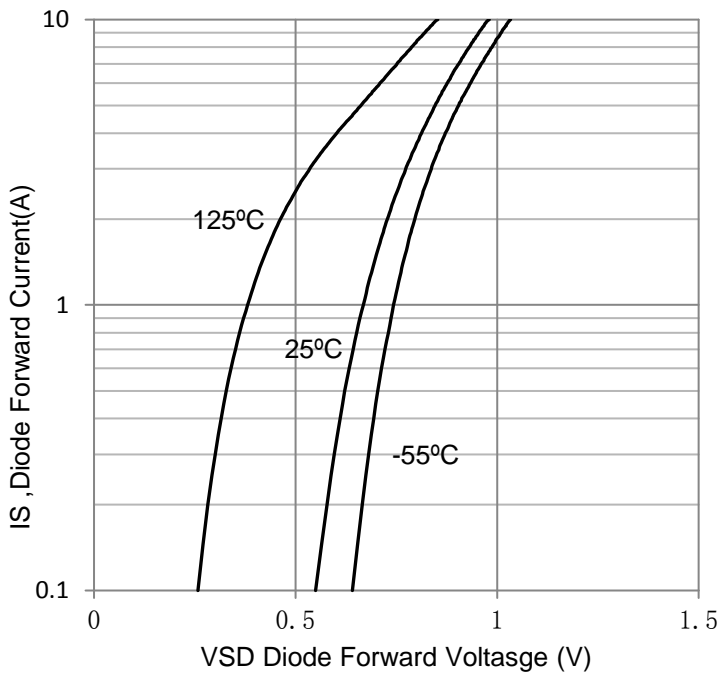
6.ELECTRICAL CHARACTERISTICS CURVES (Con.)



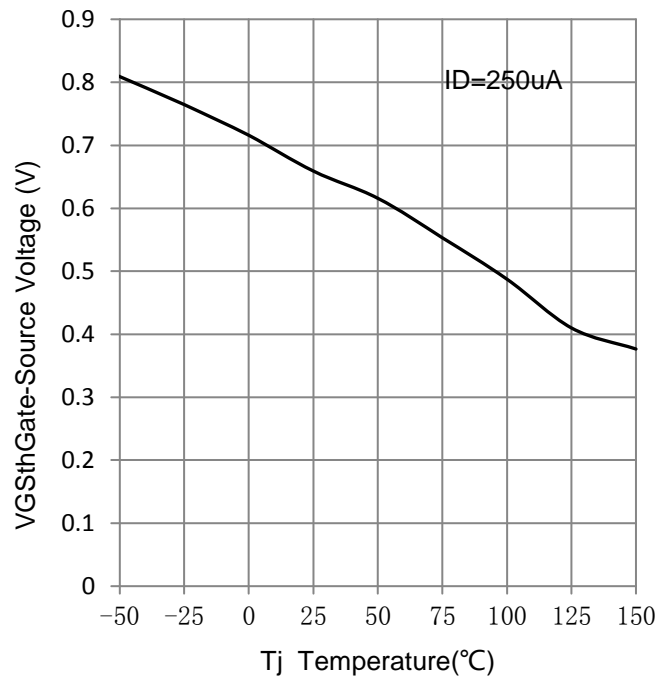
On-Resistance Variation with Temperature



Drain-to-Source Leakage Current vs. Voltage

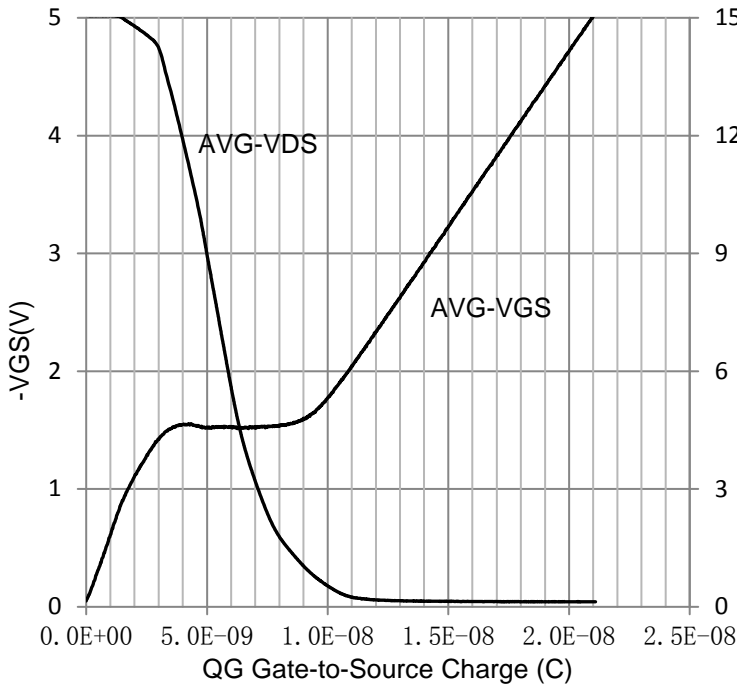


Diode Forward Voltage vs. Current

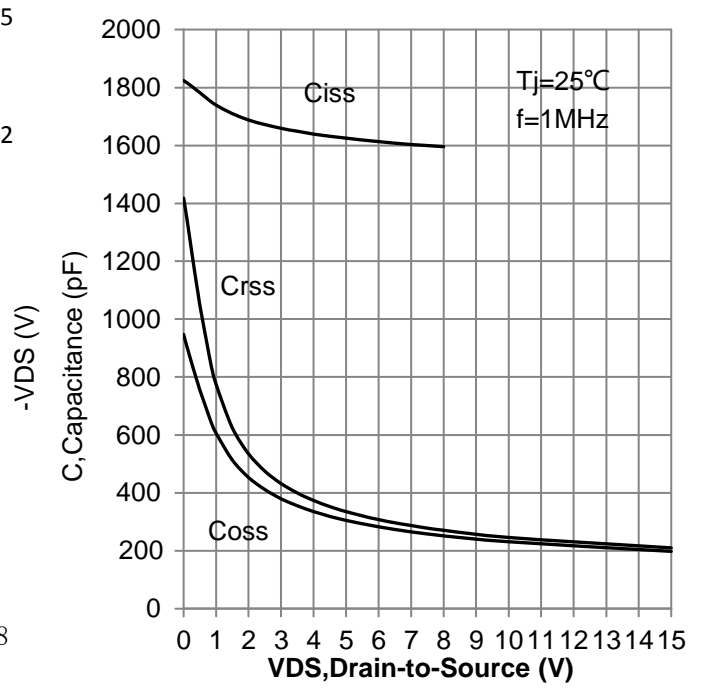


Threshold Voltage

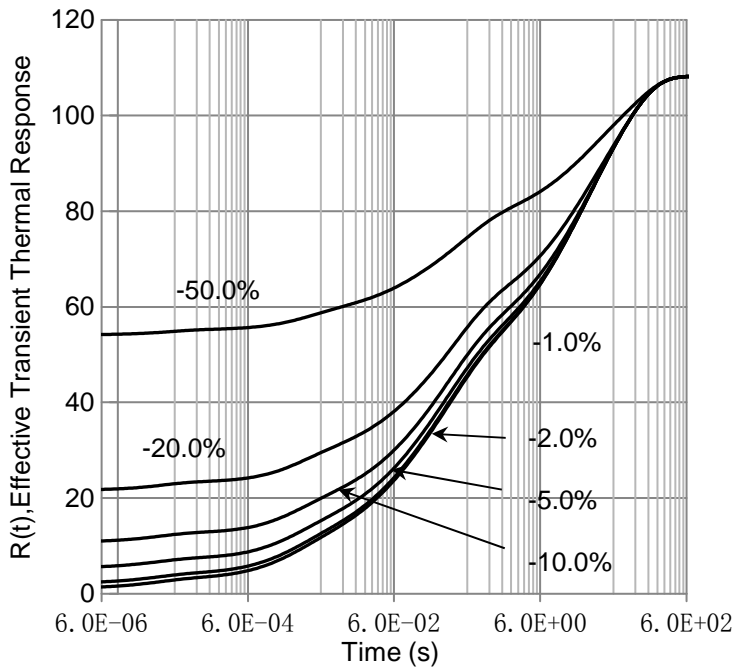
6.ELECTRICAL CHARACTERISTICS CURVES (Con.)



Gate-to-Source and Drain-to-Source Voltage vs. Total Charge

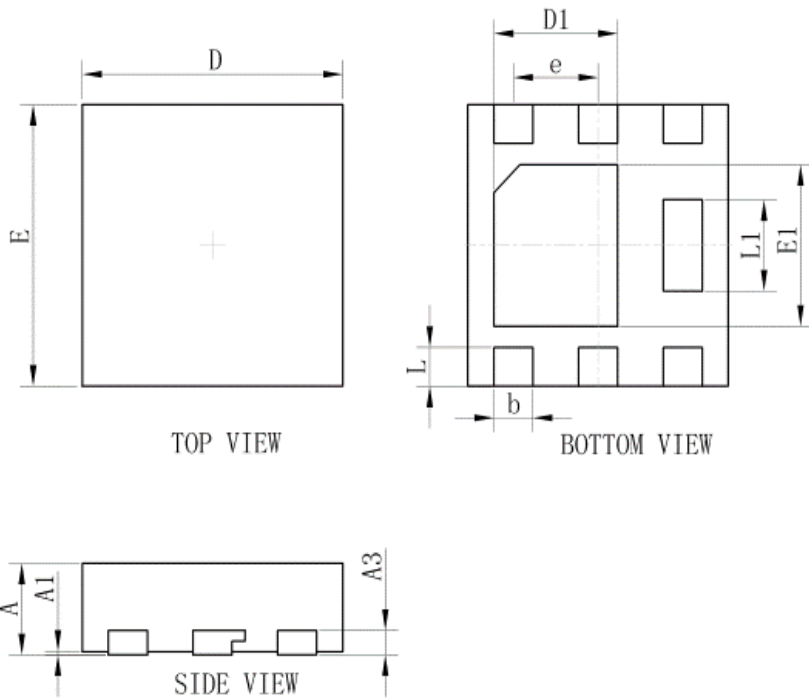


Capacitance variation



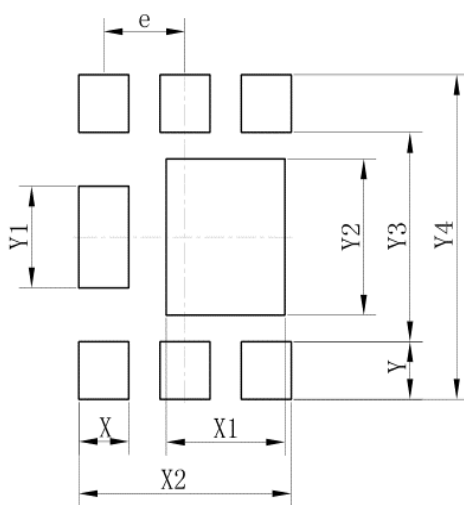
FET Thermal Response

7. OUTLINE AND DIMENSIONS



DFN2020-6S			
DIM	MIN	NOR	MAX
A	0.60	0.65	0.70
A1	0.01	0.03	0.05
b	0.25	0.30	0.35
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	0.65TYP.		
L	0.23	0.28	0.33
L1	0.60	0.65	0.65
D1	0.90	0.95	1.00
E1	1.10	1.15	1.20
A3	0.152REF		
All Dimensions in mm			

8. SOLDERING FOOTPRINT



DFN2020-6S	
Dim	(mm)
X	0.40
X1	0.95
X2	1.70
e	0.65
Y	0.43
Y1	0.75
Y2	1.15
Y3	1.54
Y4	2.39

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- All information contained in this document is current as of the issuing date and subject to change without any prior notice. Before purchasing or using LRC's Products, please confirm the latest information with a LRC sales representative.

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