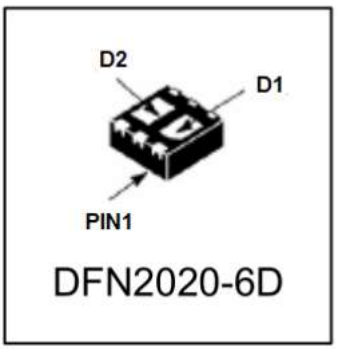
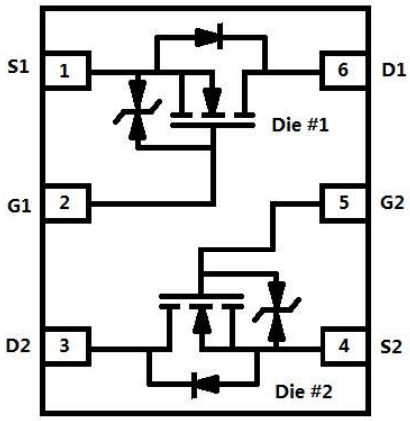
DN3370D

30V N-Channel (D-S) MOSFET



1. FEATURES

- VDS= 30V
- RDS(ON), VGS@10V, IDS@5.1A = 38m
- RDS(ON), VGS@4.5V, IDS@4.5A = 48m
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- ESD protected



2. APPLICATIONS

- Power Routing
- Li Ion Battery Packs
- Level Shifting and Driver Circuits

3. DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
DN3370D	37D	4000/Tape&Reel

4. MAXIMUM RATINGS(Ta = 25ºC)

Parameter		Symbol	Limits	Unit
Drain–Source Voltage		VDS	30	V
Gate–to–Source Voltage		VGS	±20	V
Continuous Drain Current(Note 1)	TA=25℃	ID	5.1	A
	TA=70℃		4	
Pulsed Drain Current(Note 2)		IDM	20	
Continuous Source Current(Note 1)		IS	1.7	A
Power Dissipation(Note 1)	TA=25℃	PD	1.3	W
	TA=70℃		0.8	
Operating Junction and Storage Temperature Range		TJ,TSTG	-55~+150	℃

5. THERMAL CHARACTERISTICS

Parameter		Symbol	Limits	Unit
Maximum Junction-to-Ambient(Note 1)	t ≤10 sec	RθJA	100	°C/W
	Steady State		166	

1.Surface Mounted on 1” x 1” FR4 Board.

2.Pulse width limited by maximum junction temperature

6. ELECTRICAL CHARACTERISTICS (Ta= 25ºC)

Static

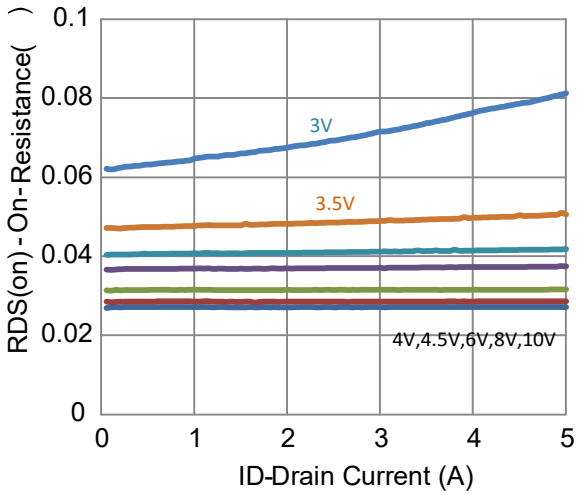
Characteristic	Symbol	Min.	Typ.	Max.	Unit
Drain–Source Breakdown Voltage (VGS = 0, ID = 250μA)	V(BR)DSS	30	-	-	V
Zero Gate Voltage Drain Current (VDS = 24 V, VGS = 0 V) (VDS = 24 V, VGS = 0 V, TJ = 55°C)	IDSS	- -	- -	1 10	μA
Gate-Source Threshold Voltage (VDS = VGS , ID = 250 uA)	VGS(th)	0.7	-	-	V
Gate–Body Leakage Current (VDS = 0 V, VGS = ± 16 V)	IGSS	-	-	±10	μA
On-State Drain Current(Note 3) (VDS = 5 V, VGS = 10 V)	ID(on)	7.5	-	-	A
Drain-Source On-Resistance(Note 3) (VGS = 10 V, ID = 5 A) (VGS = 4.5 V, ID = 4 A)	RDS(on)	- -	25 40	38 52	m
Forward Transconductance(Note 3) (VDS = 15 V, ID = 5 A)	gfs	-	14	-	S
Diode Forward Voltage(Note 3) (IS = 0.85 A, VGS = 0 V)	VSD	-	0.75	-	V

DYNAMIC

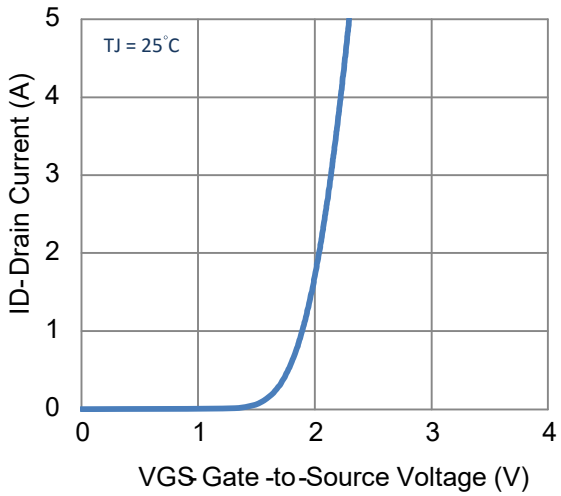
Total Gate Charge	(VDS = 15 V, VGS = 4.5 V,ID = 2 A)	Qg	-	5	-	nC
Gate-Source Charge		Qgs	-	0.8	-	
Gate-Drain Charge		Qgd	-	2.3	-	
Turn-On Delay Time	(VDS = 15 V, RL = 7.5 ,ID = 2 A,VGEN = 10 V, RGEN = 6)	td(on)	-	3	-	ns
Rise Time		tr	-	9	-	
Turn-Off Delay Time		td(off)	-	22	-	
Fall Time		tf	-	8	-	
Input Capacitance	(VDS = 15 V, VGS = 0 V, f = 1 MHz)	Ciss	-	419	-	pF
Output Capacitance		Coss	-	58	-	
Reverse Transfer Capacitance		Crss	-	53	-	

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

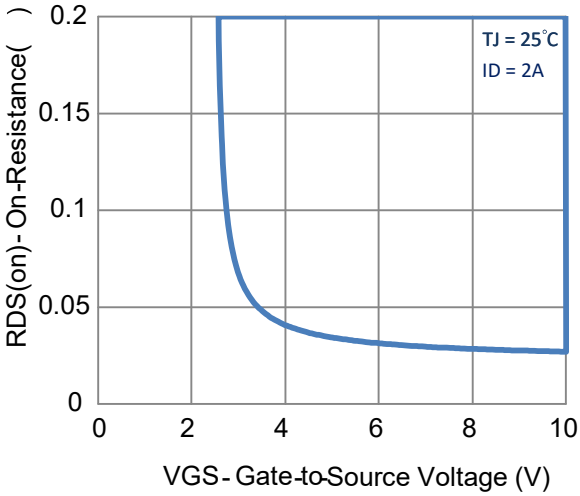
7.ELECTRICAL CHARACTERISTICS CURVES



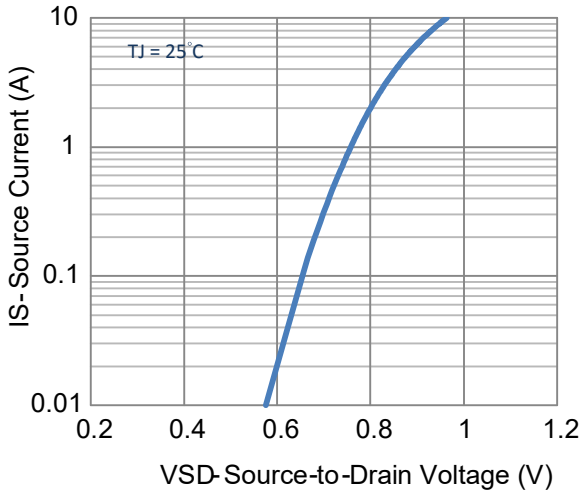
On-Resistance vs. Drain Current



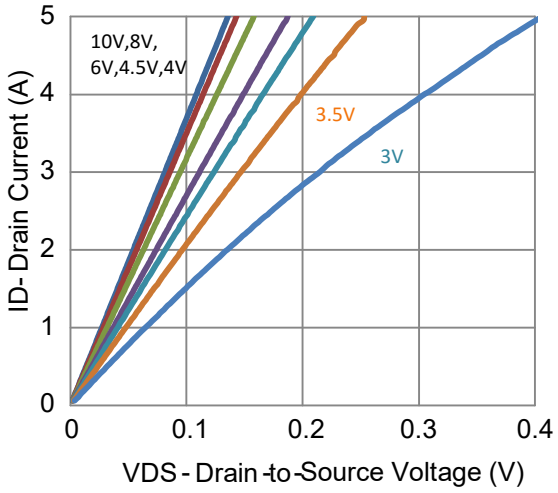
Transfer Characteristics



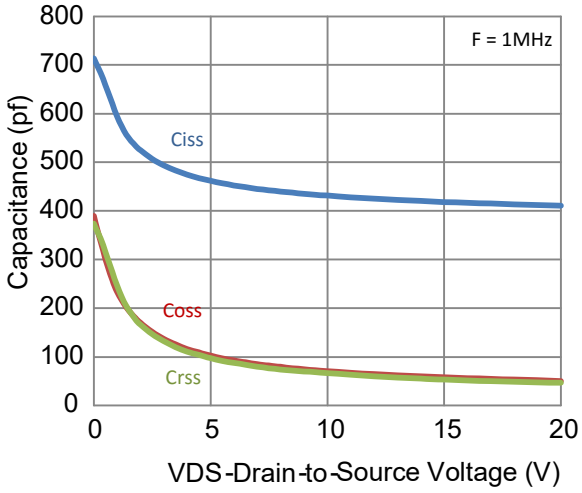
On-Resistance vs. Gate-to-Source Voltage



Drain-to-Source Forward Voltage

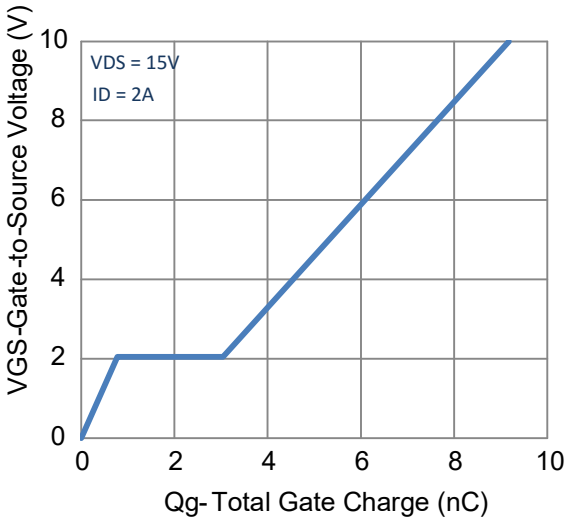


Output Characteristics

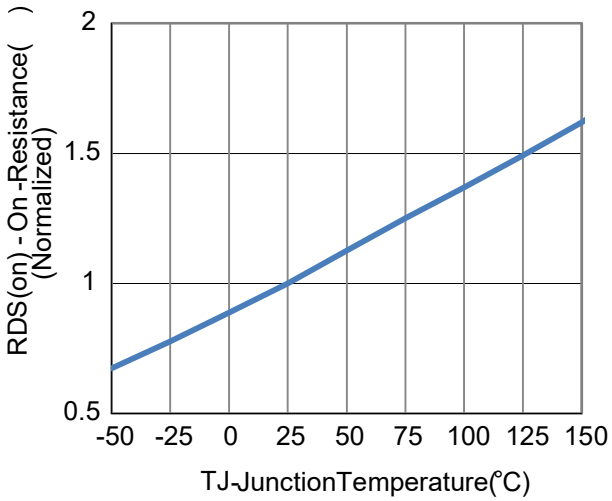


Capacitance

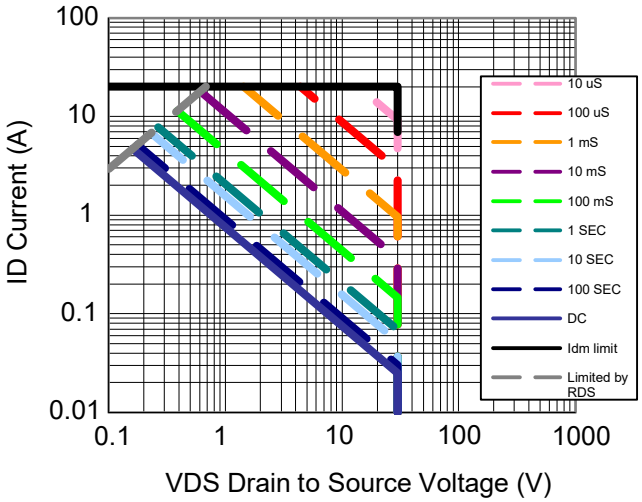
7.ELECTRICAL CHARACTERISTICS CURVES（Con.）



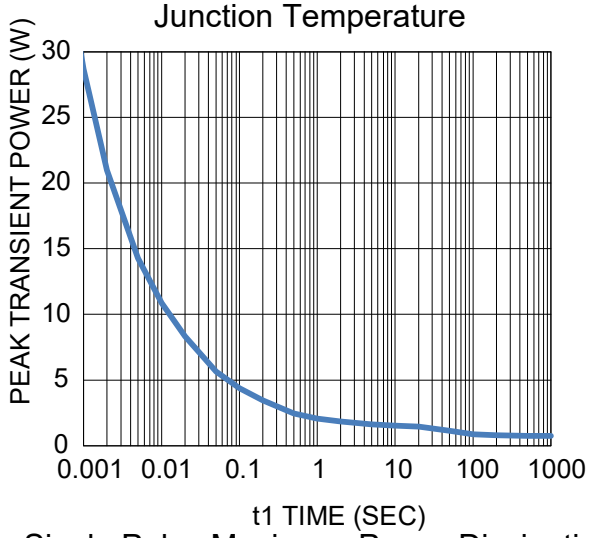
Gate Charge



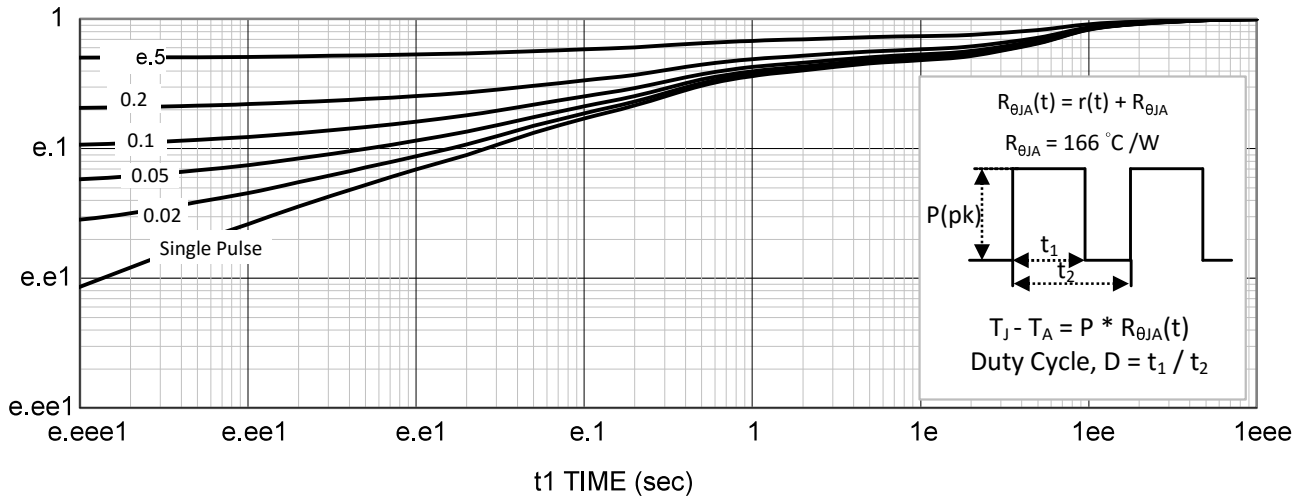
Normalized On-Resistance Vs Junction Temperature



Safe Operating Area

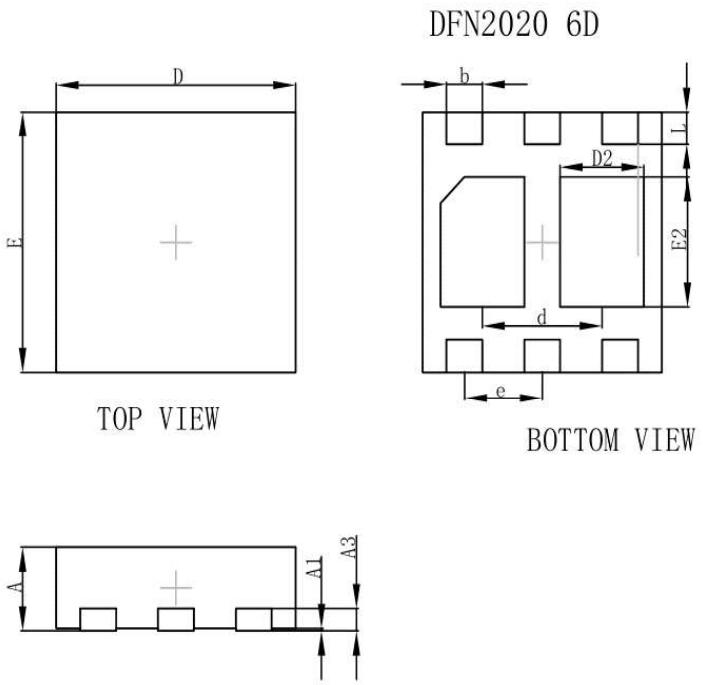


Single Pulse Maximum Power Dissipation



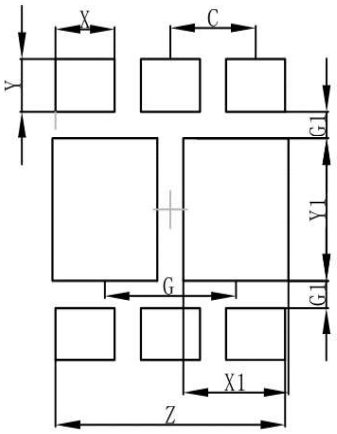
Normalized Thermal Transient Junction to Ambient

8.OUTLINE AND DIMENSIONS



DFN2020-6D			
Dim	Min	Typ	Max
D	1.95	2.00	2.05
E	1.95	2.00	2.05
e	-	0.65	-
L	0.20	0.25	0.30
b	0.25	0.30	0.35
d	-	1.00	-
A	0.60	0.65	0.70
A1	0.00	0.02	0.05
A3	-	0.152	-
E2	0.95	1.00	1.05
D2	0.65	0.70	0.75
All Dimensions in mm			

9.SOLDERING FOOTPRINT



Dimensions	(mm)
X	0.45
Y	0.37
X1	0.80
Y1	1.00
C	0.65
G	1.00
G1	0.19
Z	1.75