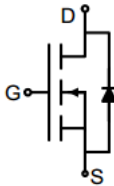
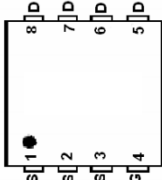
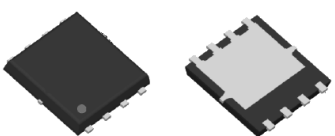


N-Channel Enhancement Mode Power MOSFET

Description The GT025N06D5 uses advanced trench technology to provide excellent $R_{DS(ON)}$, low gate charge. It can be used in a wide variety of applications.		 Schematic diagram	
General Features • V_{DS} 60V • I_D (at $V_{GS} = 10V$) 95A • $R_{DS(ON)}$ (at $V_{GS} = 10V$) < 2.7mΩ • $R_{DS(ON)}$ (at $V_{GS} = 4.5V$) < 3.4mΩ • 100% Avalanche Tested • RoHS Compliant		 Marking and pin assignment	
Application • Power switch • DC/DC converters • Synchronous Rectification		 DFN5*6	
Device	Package	Marking	Packaging
GT025N06D5	DFN5*6	GT025N06	5000pcs/Reel

Absolute Maximum Ratings $T_C = 25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	60	V
Continuous Drain Current	I_D	95	A
Pulsed Drain Current (note1)	I_{DM}	390	A
Gate-Source Voltage	V_{GS}	± 20	V
Single pulse avalanche energy (note3)	E_{AS}	210	mJ
Power Dissipation	P_D	120	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 To 150	$^\circ\text{C}$

Thermal Resistance

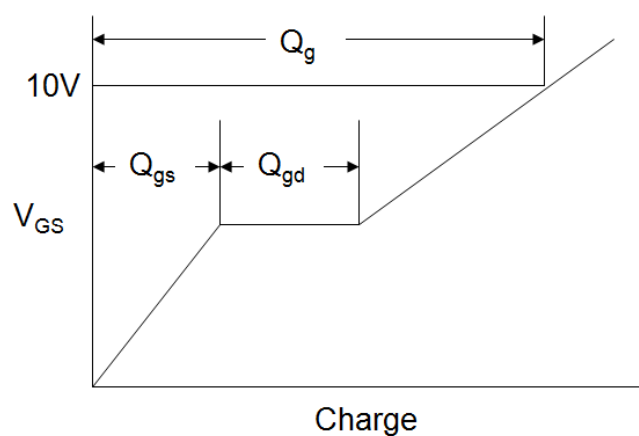
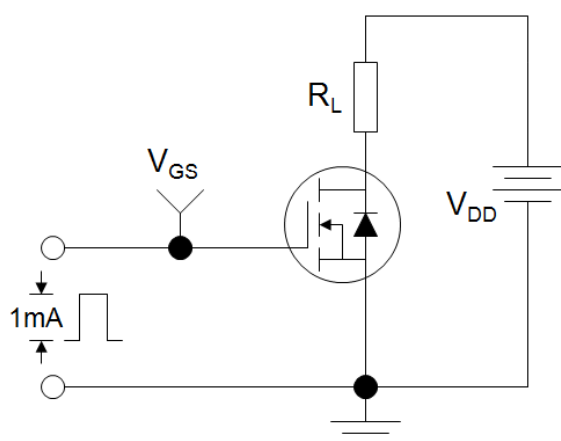
Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Ambient	R_{thJA}	20	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Case	R_{thJC}	1.04	$^\circ\text{C/W}$

Specifications T _J = 25°C, unless otherwise noted						
Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Static Parameters						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	60	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 60V, V _{GS} = 0V, T _J = 25°C	--	--	1	μA
Gate-Source Leakage	I _{GSS}	V _{GS} = ±20V	--	--	±100	nA
Gate-Source Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	1.2	1.7	2.5	V
Drain-Source On-Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 20A	--	2.4	2.7	mΩ
		V _{GS} = 4.5V, I _D = 15A	--	3	3.4	
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{GS} = 0V, V _{DS} = 25V, f = 1.0MHz	--	5950	--	pF
Output Capacitance	C _{oss}		--	1250	--	
Reverse Transfer Capacitance	C _{rss}		--	85	--	
Total Gate Charge	Q _g	V _{DD} = 50V, I _D = 50A, V _{GS} = 10V	--	93	--	nC
Gate-Source Charge	Q _{gs}		--	17	--	
Gate-Drain Charge	Q _{gd}		--	14	--	
Turn-on Delay Time	t _{d(on)}	V _{DD} = 30V, I _D = 25A, R _G = 2Ω	--	23	--	ns
Turn-on Rise Time	t _r		--	7	--	
Turn-off Delay Time	t _{d(off)}		--	80	--	
Turn-off Fall Time	t _f		--	27	--	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I _S	T _C = 25°C	--	--	95	A
Body Diode Voltage	V _{SD}	T _J = 25°C, I _{SD} = 20A, V _{GS} = 0V	--	--	1.2	V
Reverse Recovery Chrage	Q _{rr}	IF=25A, di/dt=100A/us		73	--	nC
Reverse Recovery Time	T _{rr}			68	--	ns

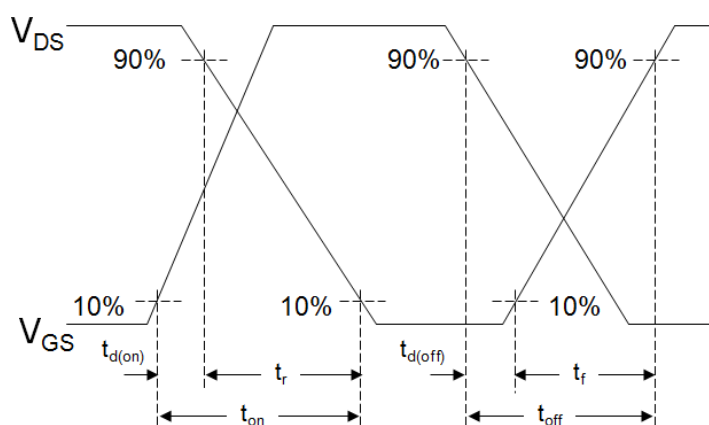
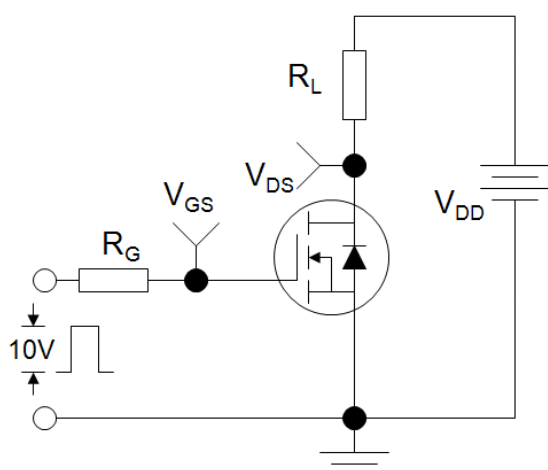
Notes

1. Repetitive Rating: Pulse width limited by maximum junction temperature
2. Identical low side and high side switch with identical R_G
3. EAS condition : $T_J=25^\circ\text{C}$, $V_{DD}=50V, V_{GS}=10V, L=0.5mH, R_g=25\Omega$

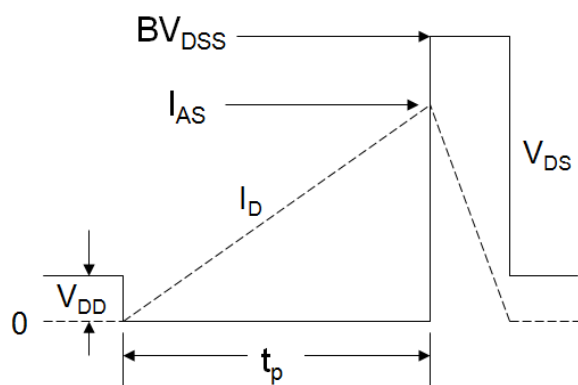
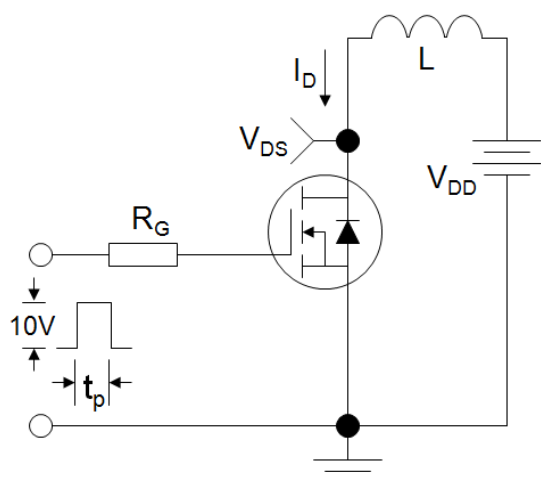
Gate Charge Test Circuit



EAS Test Circuit



Switch Time Test Circuit



Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

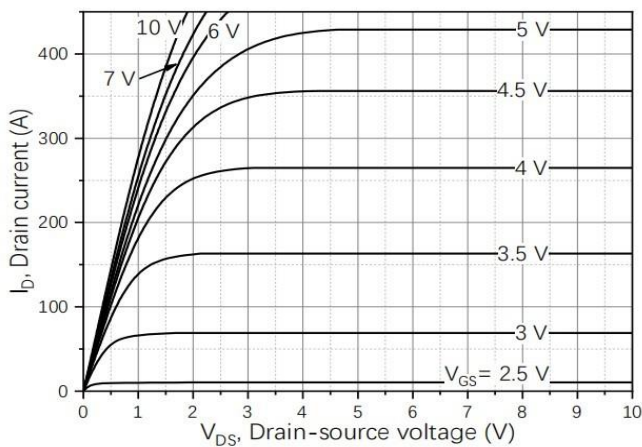


Figure1. Output Characteristics

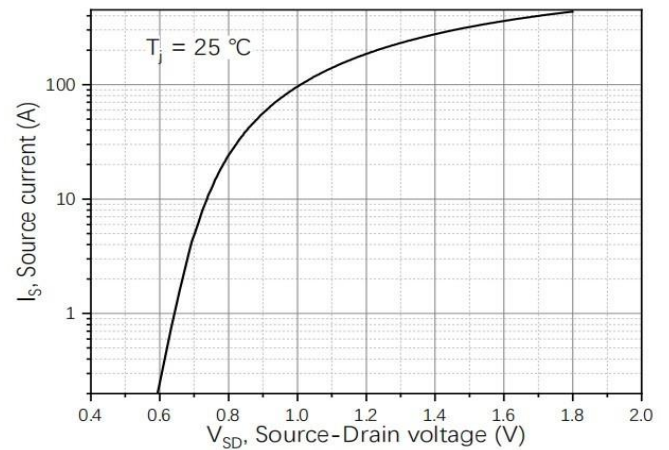


Figure2. Transfer Characteristics

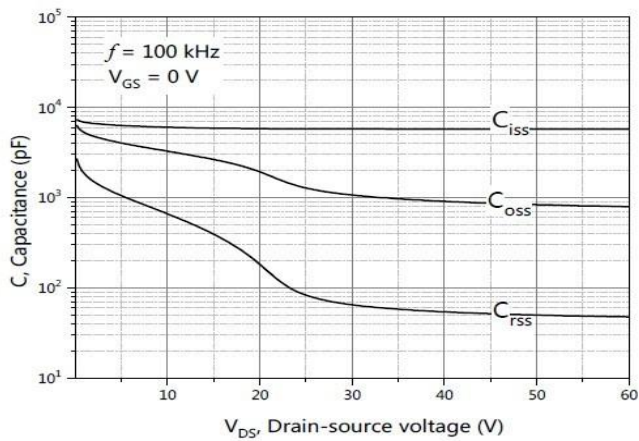


Figure3. Capacitance Characteristics

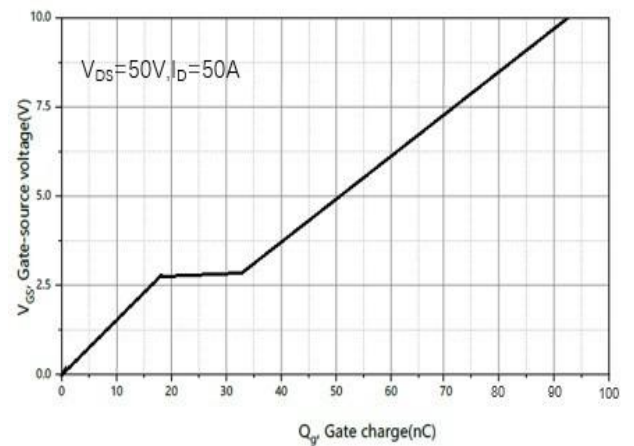


Figure4. Gate Charge

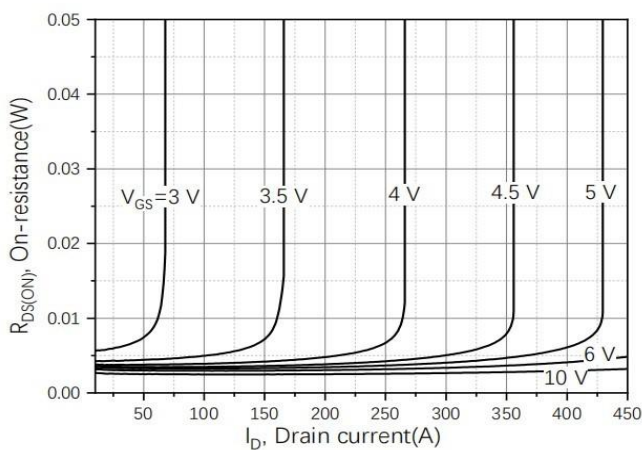


Figure5. Drain-Source on Resistance

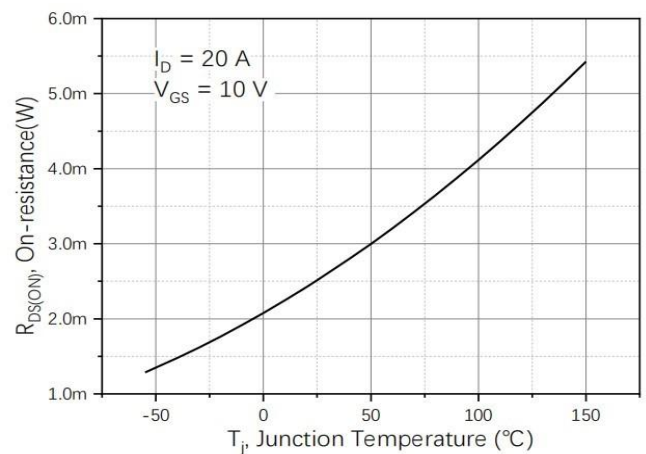


Figure6. Drain-Source on Resistance

Typical Characteristics $T_J = 25^\circ\text{C}$, unless otherwise noted

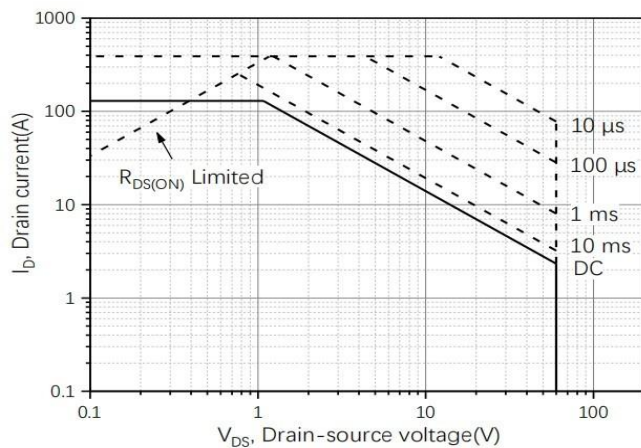


Figure7. Safe Operation Area

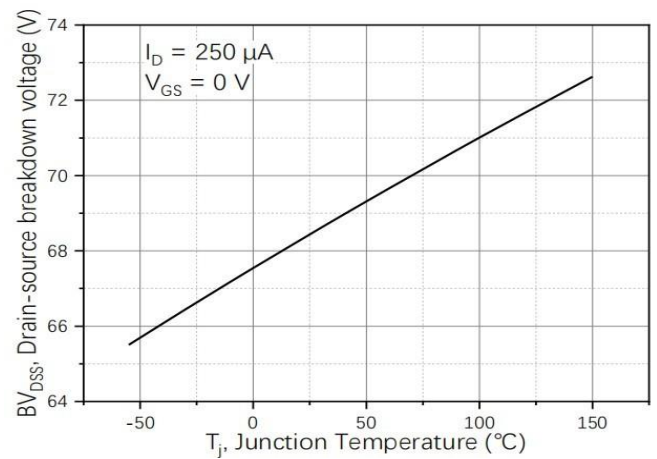


Figure8. Drain-source breakdown voltage

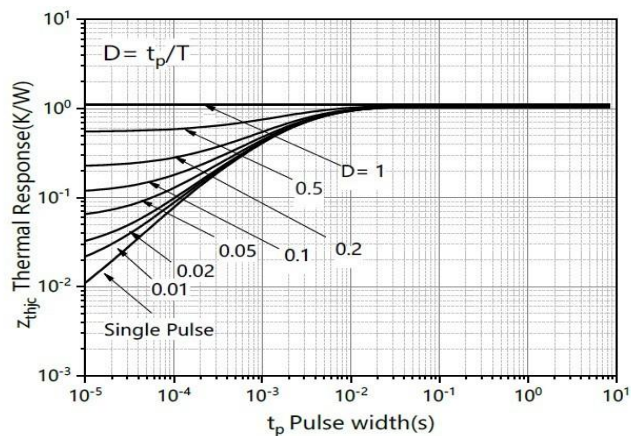
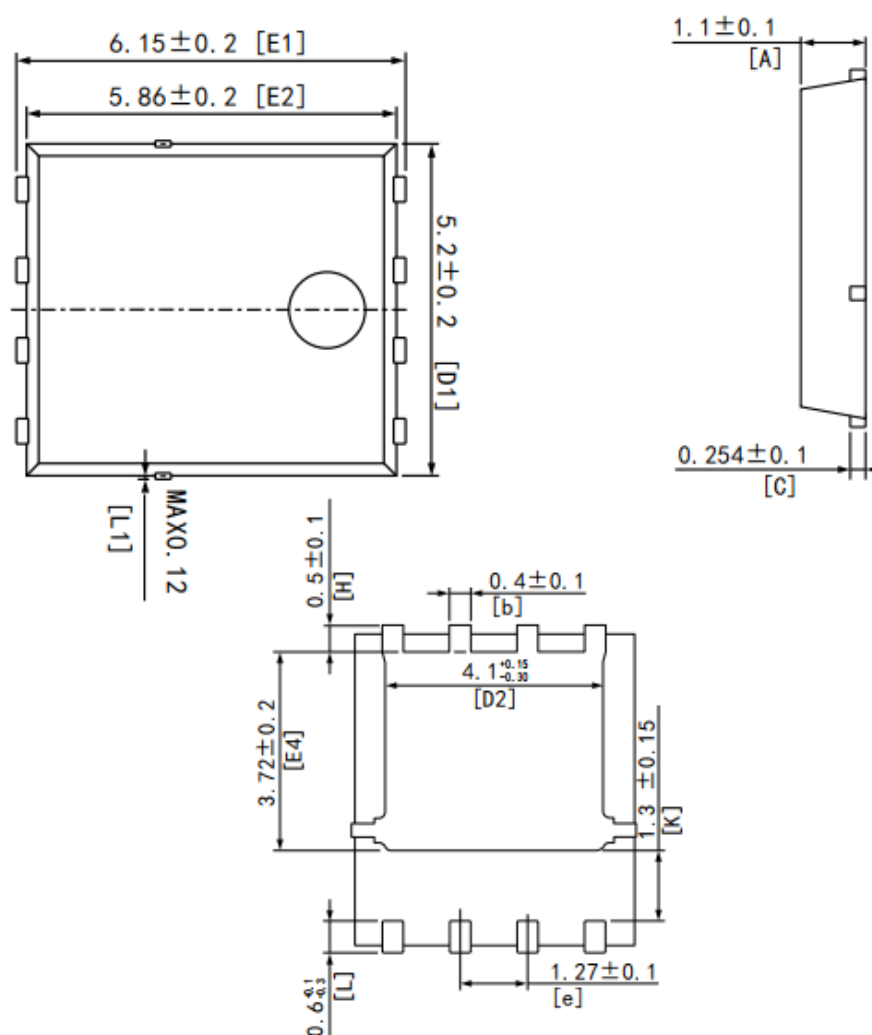


Figure 9. Transient thermal impedance

DFN5×6-8L Package Information



DIN	MIN	NOM	MAX
A	1.0	1.1	1.2
b	0.3	0.4	0.5
C	0.154	0.254	0.354
D1	5.0	5.2	5.4
D2	3.80	4.10	4.25
E1	5.95	6.15	6.35
E2	5.66	5.86	6.06
E4	3.52	3.72	3.92
e	1.17	1.27	1.37
H	0.4	0.5	0.6
K	1.15	1.30	1.45
L	0.3	0.6	0.7
L1	—	—	0.12
All dimensions in mm			