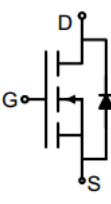
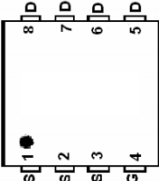
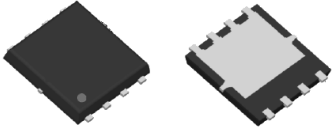


N-Channel Enhancement Mode Power MOSFET

<p>Description</p> <p>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.</p> <p>General Features</p> <ul style="list-style-type: none"> ● 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 <p>Application</p> <ul style="list-style-type: none"> ● Power switch ● DC/DC converters ● Synchronous Rectification 		 <p>Schematic diagram</p>  <p>Marking and pin assignment</p>  <p>DFN5*6</p>	
Device	Package	Marking	Packaging
GT025N06D5	DFN5*6	GT025N06	5000pcs/Reel

Absolute Maximum Ratings $T_C = 25^\circ C$, 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	$^\circ C$

Thermal Resistance

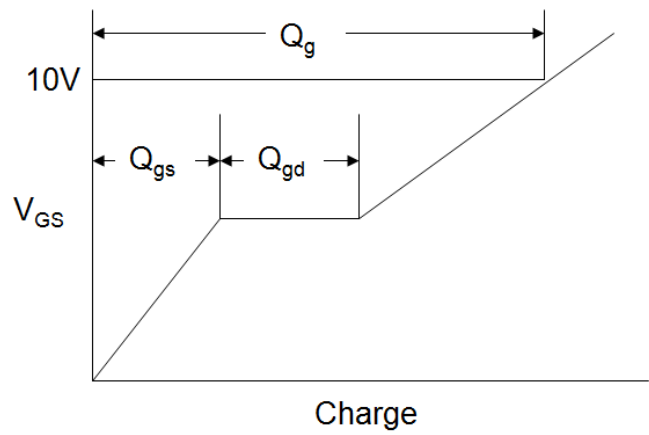
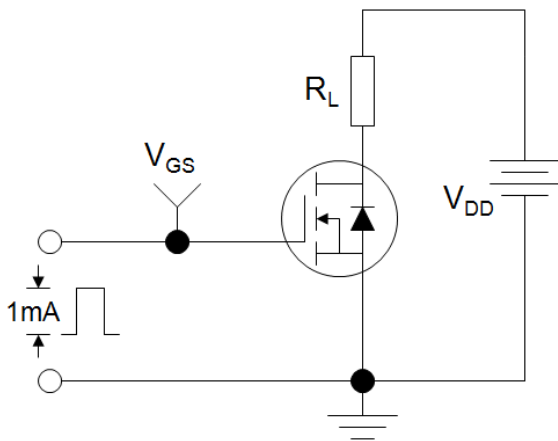
Parameter	Symbol	Value	Unit
Thermal Resistance, Junction-to-Ambient	R_{thJA}	20	$^\circ C/W$
Thermal Resistance, Junction-to-Case	R_{thJC}	1.04	$^\circ C/W$

Specifications $T_J = 25^\circ\text{C}$, unless otherwise noted						
Parameter	Symbol	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
Static Parameters						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	60	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 60V, V_{GS} = 0V, T_J = 25^\circ\text{C}$	--	--	1	μA
Gate-Source Leakage	I_{GSS}	$V_{GS} = \pm 20V$	--	--	± 100	nA
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.2	1.7	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 20A$	--	2.4	2.7	m Ω
		$V_{GS} = 4.5V, I_D = 15A$	--	3	3.4	
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{GS} = 0V,$ $V_{DS} = 25V,$ $f = 1.0\text{MHz}$	--	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	$t_{d(on)}$	$V_{DD} = 30V,$ $I_D = 25A,$ $R_G = 2\Omega$	--	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	$T_C = 25^\circ\text{C}$	--	--	95	A
Body Diode Voltage	V_{SD}	$T_J = 25^\circ\text{C}, I_{SD} = 20A, V_{GS} = 0V$	--	--	1.2	V
Reverse Recovery Charge	Q_{rr}	$I_F = 25A, di/dt = 100A/\mu s$		73	--	nC
Reverse Recovery Time	T_{rr}			68	--	ns

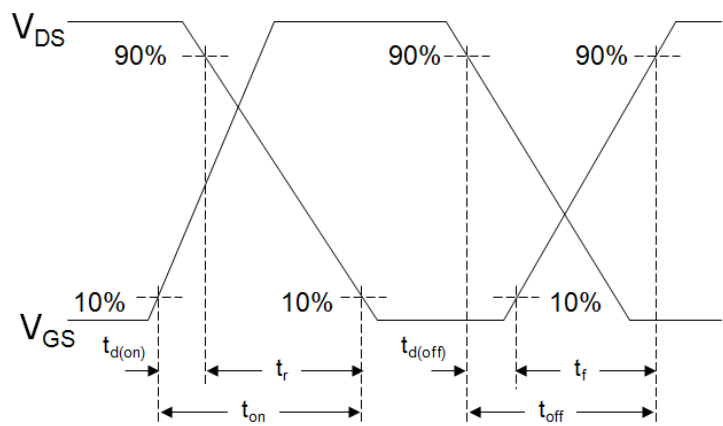
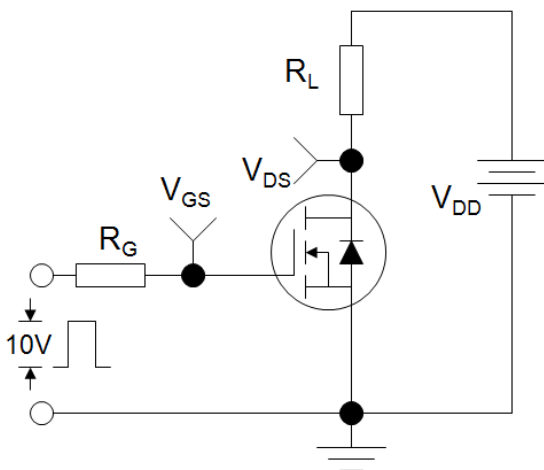
Notes

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 : $T_J = 25^\circ\text{C}, V_{DD} = 50V, V_{GS} = 10V, L = 0.5\text{mH}, R_g = 25\Omega$

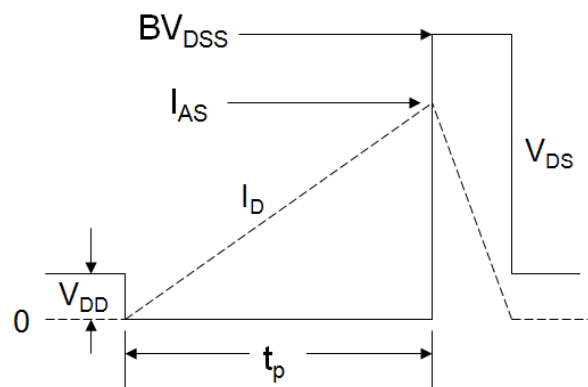
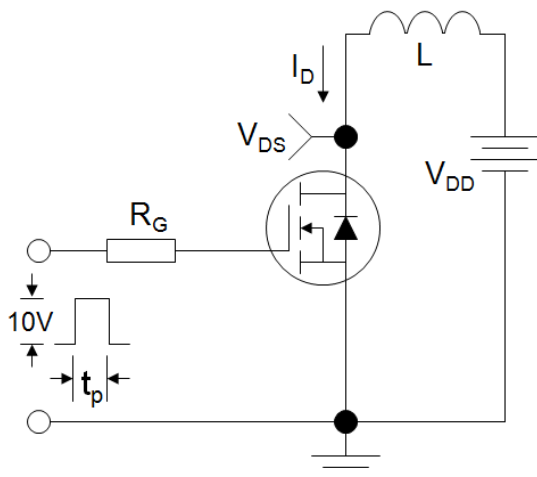
Gate Charge Test Circuit



EAS Test Circuit



Switch Time Test Circuit



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

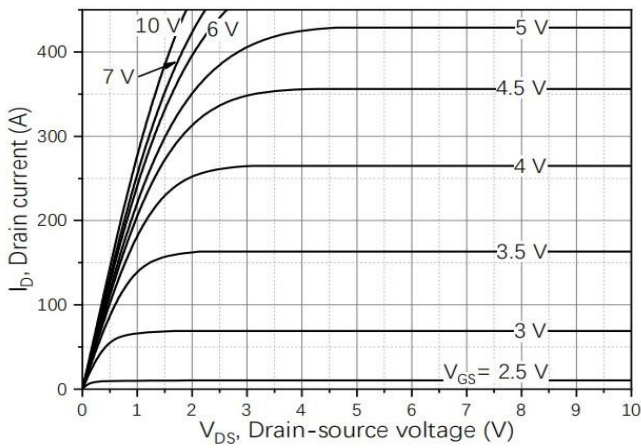


Figure1. Output Characteristics

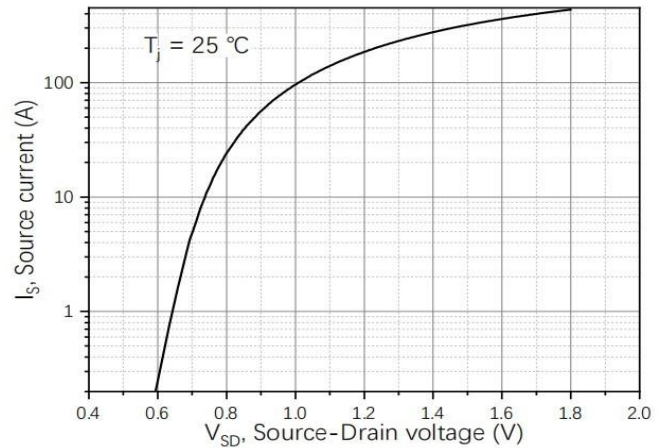


Figure2. Transfer Characteristics

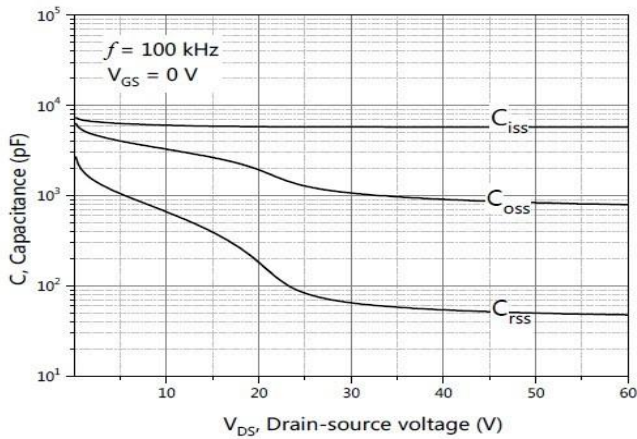


Figure3. Capacitance Characteristics

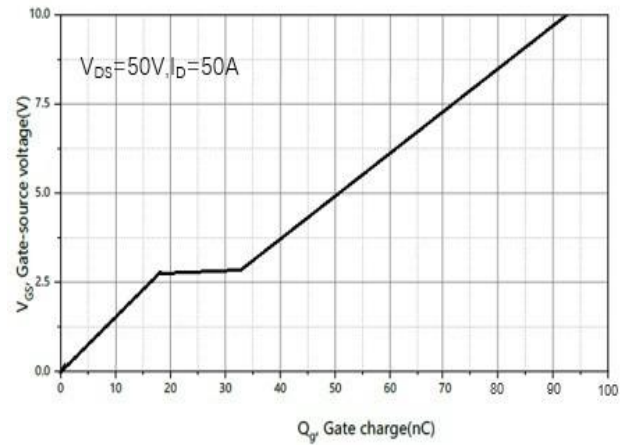


Figure4. Gate Charge

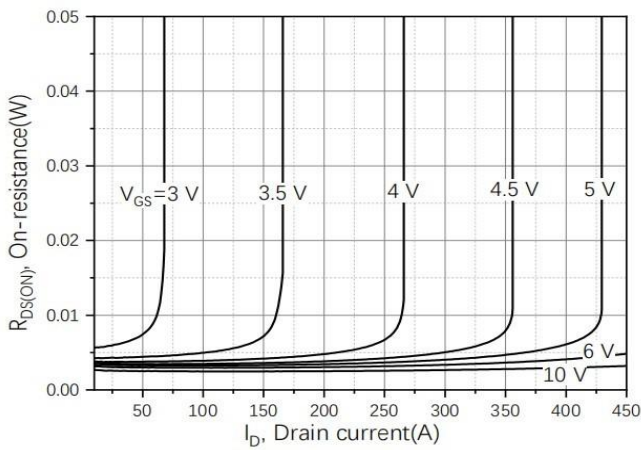


Figure5. Drain-Source on Resistance

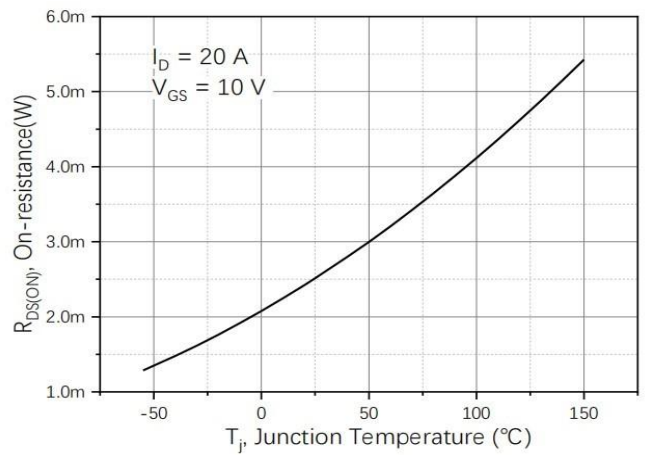


Figure6. Drain-Source on Resistance

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

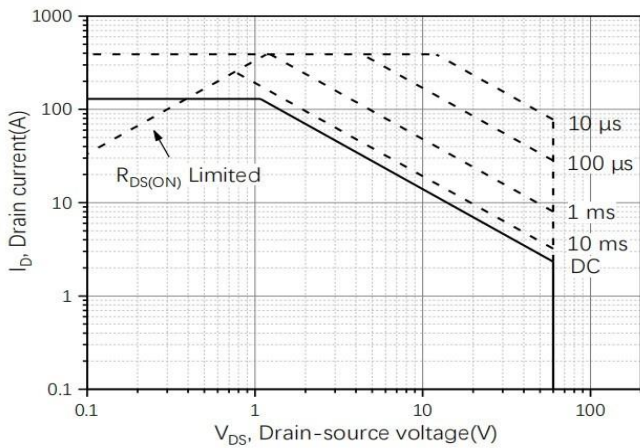


Figure 7. Safe Operation Area

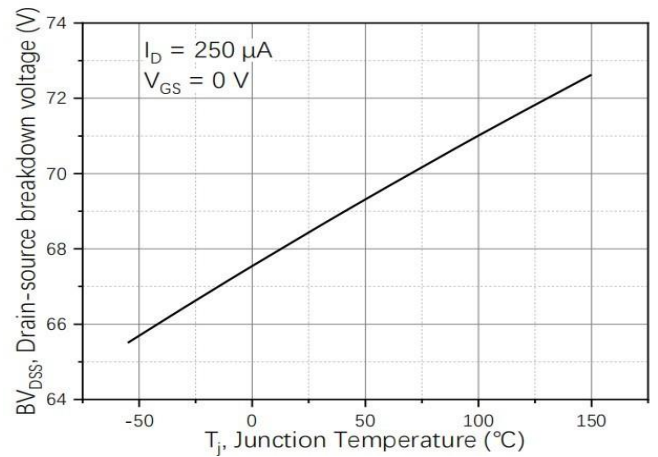


Figure 8. Drain-source breakdown voltage

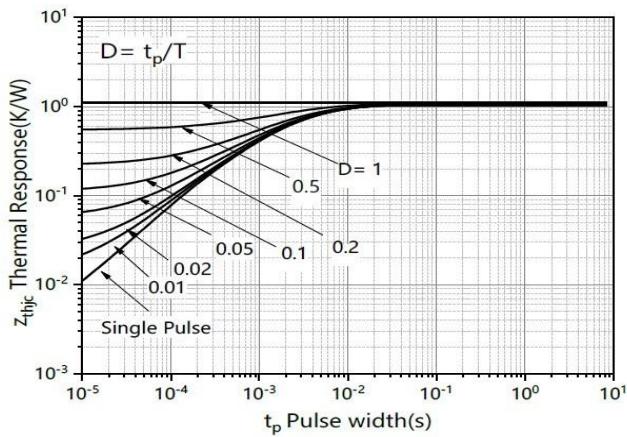
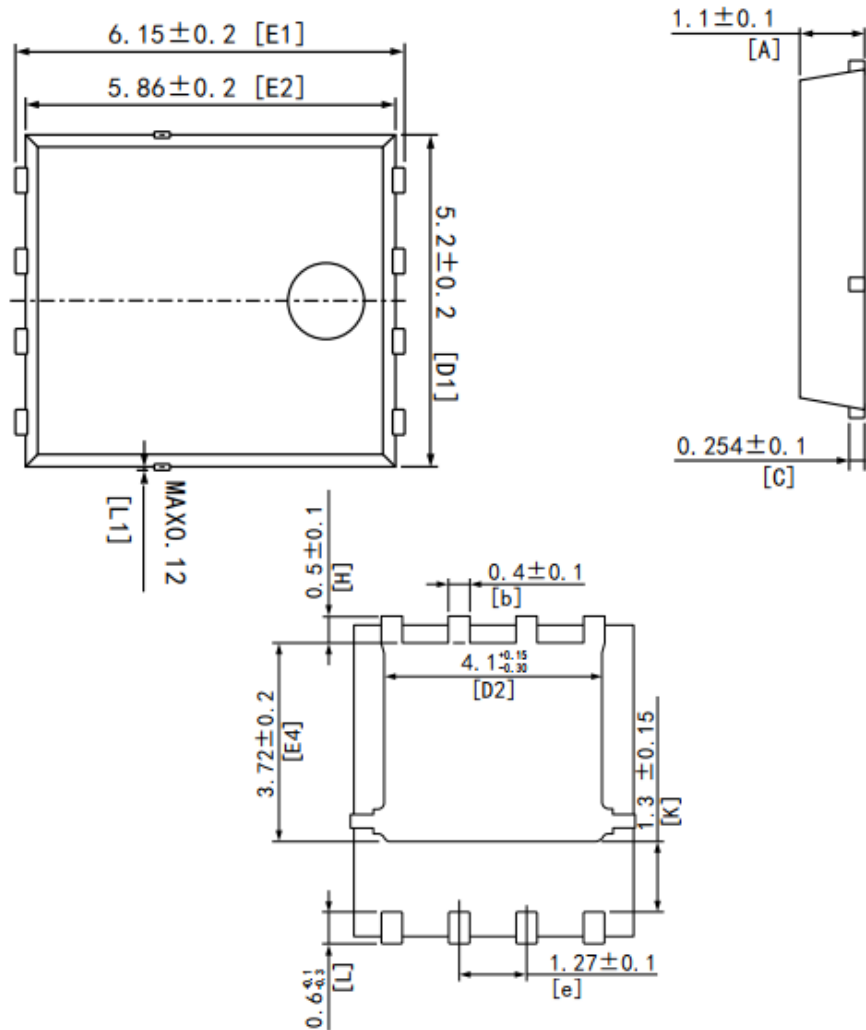


Figure 9. Transient thermal impedance

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			