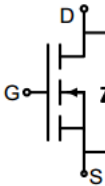
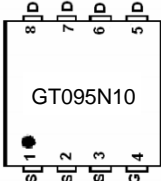
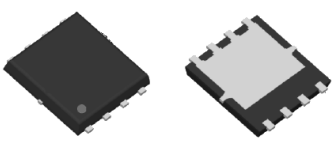


N-Channel Enhancement Mode Power MOSFET

<p>Description</p> <p>The GT095N10D5 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} 100V ● I_D (at $V_{GS} = 10V$) 55A ● $R_{DS(ON)}$ (at $V_{GS} = 10V$) < 11mΩ ● $R_{DS(ON)}$ (at $V_{GS} = 4.5V$) < 15mΩ ● 100% Avalanche Tested ● RoHS Compliant <p>Application</p> <ul style="list-style-type: none"> ● Synchronous Rectification in SMPS or LED Driver ● UPS ● Motor Control ● BMS ● High Frequency Circuit 		 <p>Schematic diagram</p>  <p>Marking and pin assignment</p>  <p>DFN5*6</p>	
Device	Package	Marking	Packaging
GT095N10D5	DFN5*6	GT095N10	5000pcs/Reel

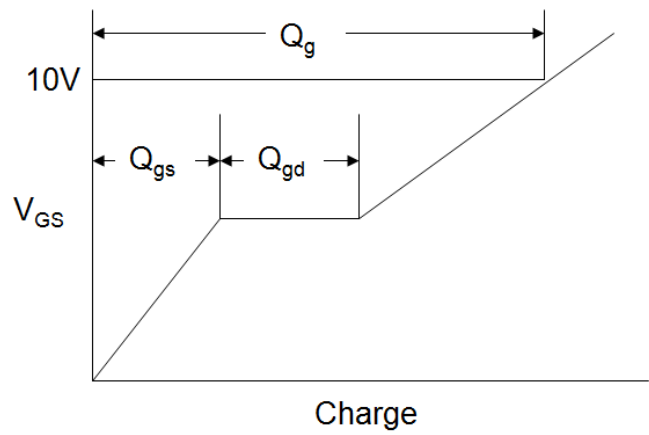
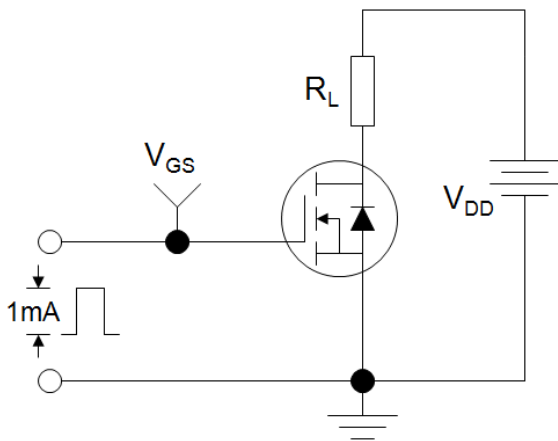
Absolute Maximum Ratings $T_C = 25^\circ C$, unless otherwise noted			
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DSS}	100	V
Continuous Drain Current	I_D	55	A
Pulsed Drain Current (note1)	I_{DM}	220	A
Gate-Source Voltage	V_{GSS}	± 20	V
Power Dissipation	P_D	74	W
Single pulse avalanche energy (note3)	E_{AS}	73	mJ
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-Case	R_{thJC}	1.7	$^\circ C/W$

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	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	100	--	--	V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V, T_J = 25^\circ\text{C}$	--	--	1	μA
Gate-Source Leakage	I_{GSS}	$V_{GS} = \pm 20V$	--	--	± 100	nA
Gate-Source Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0	1.8	2.5	V
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 35A$	--	8	11	m Ω
		$V_{GS} = 4.5V, I_D = 35A$	--	11	15	
Forward Transconductance	g_{FS}	$V_{DS}=5V, I_D=35A$	--	45	--	S
Dynamic Parameters						
Input Capacitance	C_{iss}	$V_{GS} = 0V,$ $V_{DS} = 50V,$ $f = 1.0\text{MHz}$	--	1653	--	pF
Output Capacitance	C_{oss}		--	617	--	
Reverse Transfer Capacitance	C_{rss}		--	7.5	--	
Total Gate Charge	Q_g	$V_{DD} = 50V,$ $I_D = 30A,$ $V_{GS} = 10V$	--	54	--	nC
Gate-Source Charge	Q_{gs}		--	10	--	
Gate-Drain Charge	Q_{gd}		--	14	--	
Turn-on Delay Time	$t_{d(on)}$	$V_{DD} = 50V,$ $I_D = 30A,$ $R_G = 1.6\Omega$	--	13	--	ns
Turn-on Rise Time	t_r		--	10	--	
Turn-off Delay Time	$t_{d(off)}$		--	30	--	
Turn-off Fall Time	t_f		--	8	--	
Drain-Source Body Diode Characteristics						
Continuous Body Diode Current	I_S	$T_C = 25^\circ\text{C}$	--	--	55	A
Body Diode Voltage	V_{SD}	$T_J = 25^\circ\text{C}, I_{SD} = 35A, V_{GS} = 0V$	--	--	1.2	V
Reverse Recovery Charge	Q_{rr}	$I_F=30A, di/dt=100A/us$	--	95	--	nC
Reverse Recovery Time	T_{rr}		--	45	--	ns

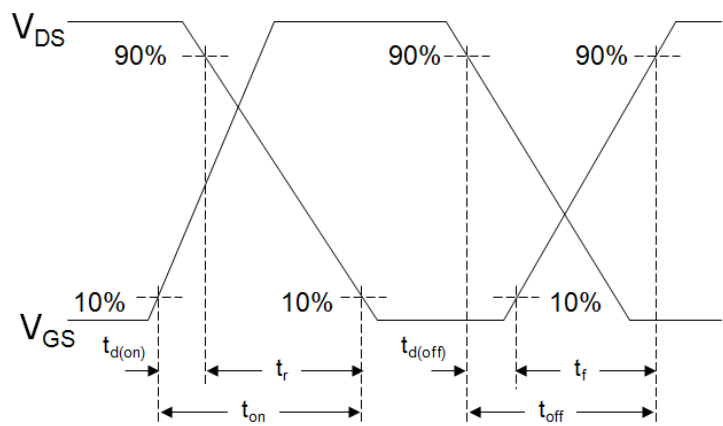
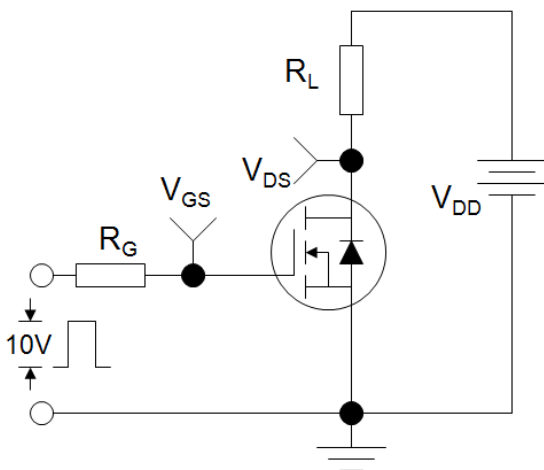
Notes

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 : $T_J=25, V_{DD}=50V, V_G=10V, L=0.5mH, R_g=25\Omega$

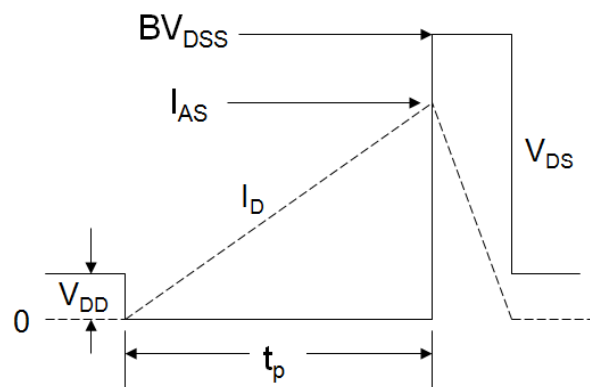
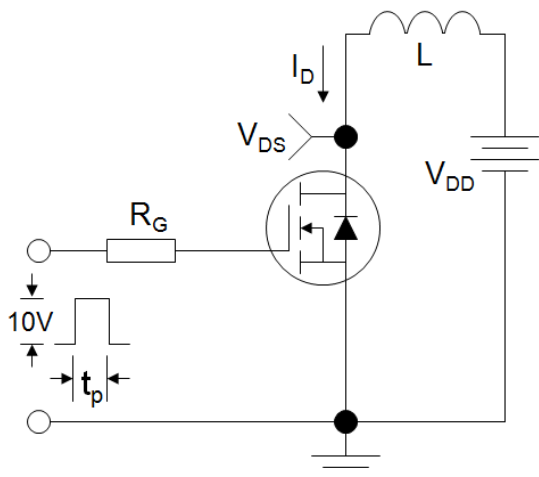
Gate Charge Test Circuit



EAS Test Circuit



Switch Time Test Circuit



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

Figure 1. Output Characteristics

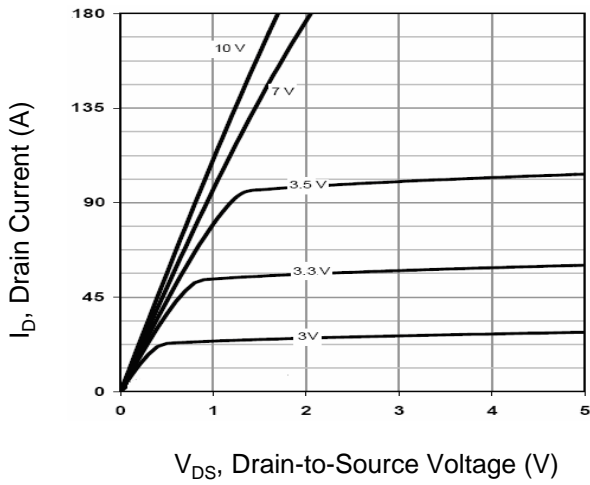


Figure 2. Transfer Characteristics

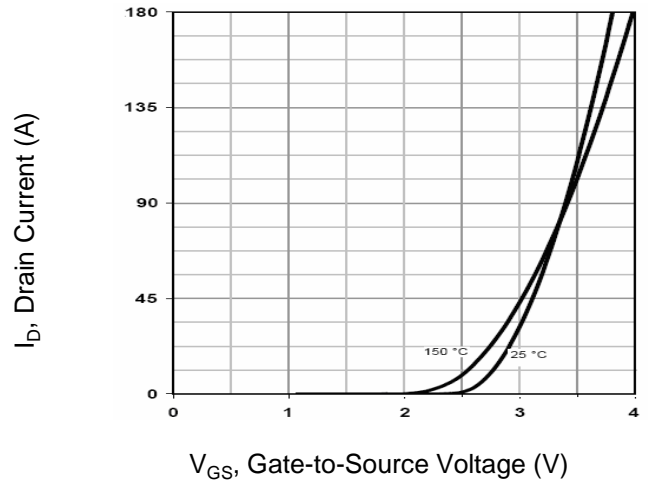


Figure 3. $R_{DS(on)}$ -Drain Current

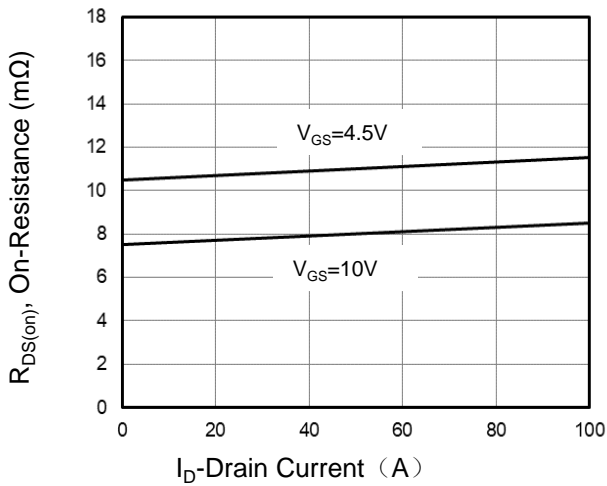


Figure 4. Gate Charge

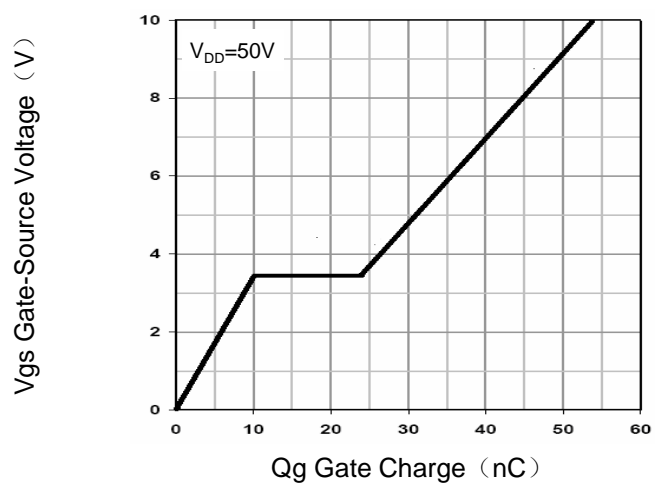


Figure 5. Capacitance vs Vds

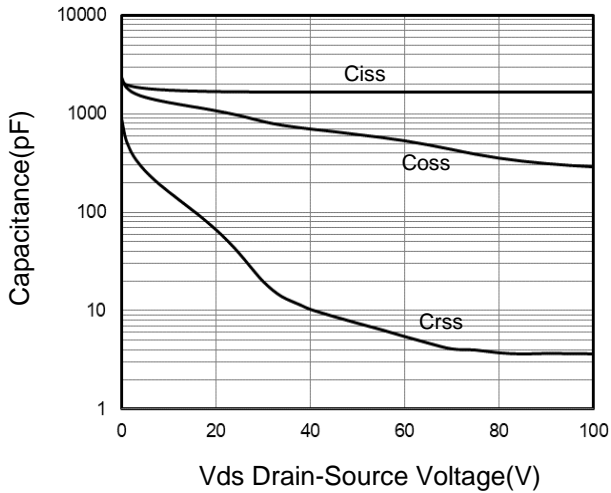
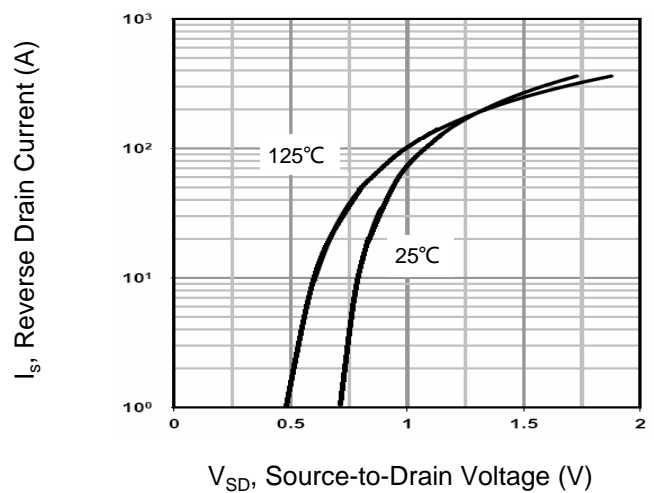


Figure 6. Source-Drain Diode Forward



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

Figure 7. Drain-Source On-Resistance

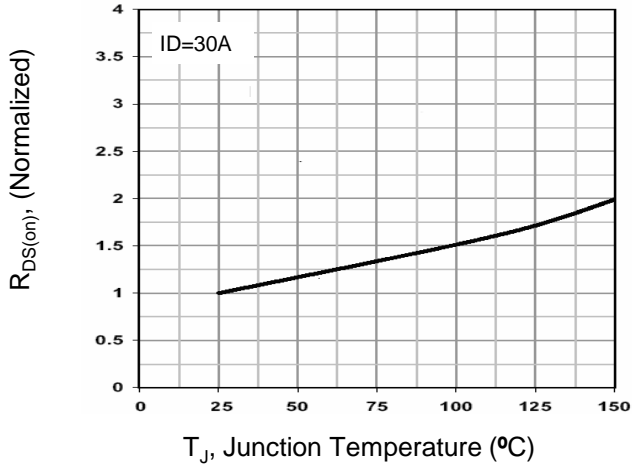


Figure 8. Safe Operation Area

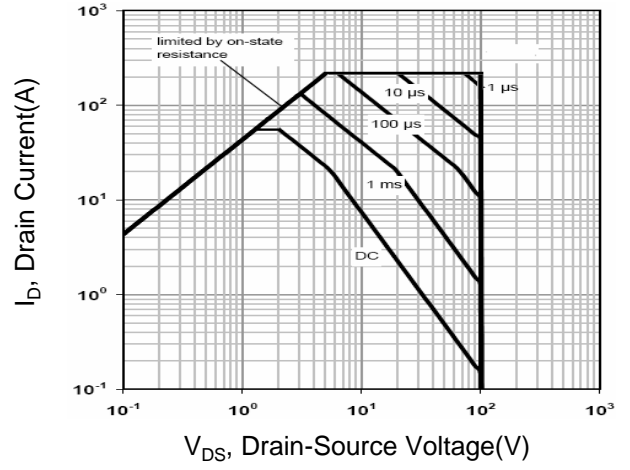
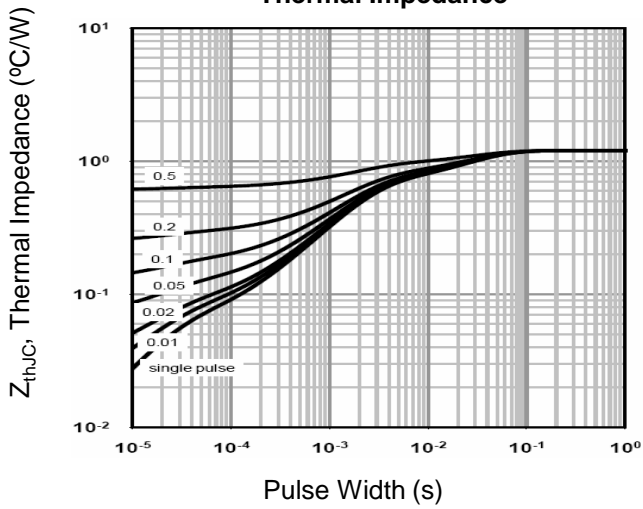
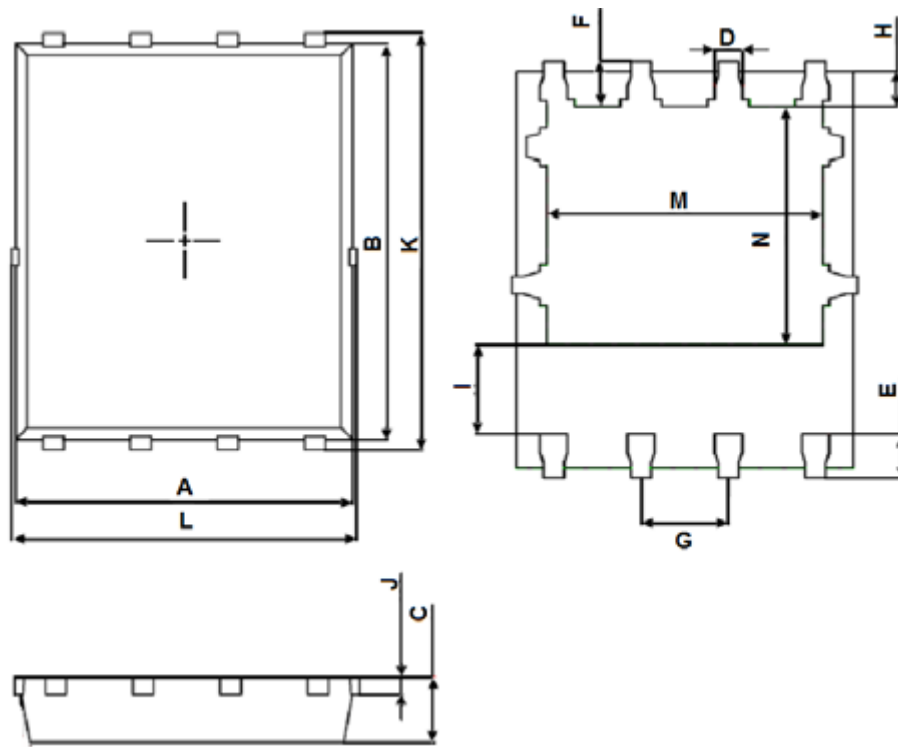


Figure 9. Normalized Maximum Transient Thermal Impedance

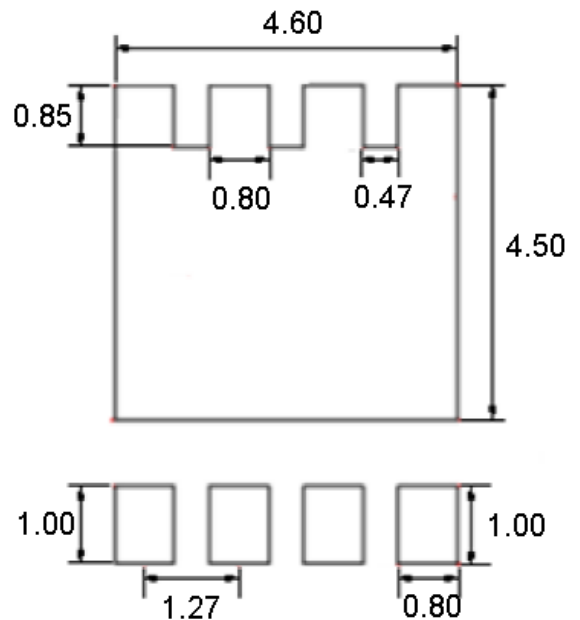


DFN5×6-8L Package Information



PDFN5×6-8L		
Dimension	Min.	Max.
A	4.824	4.976
B	5.674	5.826
C	0.900	1.000
D	0.350	0.450
E	0.559	0.711
F	0.574	0.726
G	1.250	1.290
H	0.424	0.576
I	1.190	1.390
J	0.154	0.354
K	5.974	6.126
L	4.944	5.096
M	3.910	4.110
N	3.375	3.575

Mounting Pad Layout



unit: mm