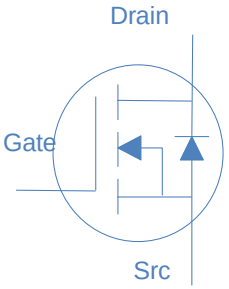
100V N-Ch Power MOSFET

V_{DS}	100	V
$R_{DS(on),typ}$	3.7	mΩ
$I_{D\ (Sillicon\ Limited)}$	112	A
$I_{D\ (Package\ Limited)}$	60	A

F

- h speed smooth switching
- diode dv/dt capability
- nche Ruggedness
- 100% Rg Tested
- Free

- ersion
- ng and High Speed Circuit



		GN042N10S

Part Number	Package	Marking
HGN042N10S	TDFN5x6	

Maximum Ratings at T_j=25 (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
us Drain Current (Silicon Limited)	I_D	T_C=25	112	A
		T_C=100	71	
us Drain Current (Package Limited)		T_C=25		
	V_{DS}	-	100	V
				W
rating and Storage Temperature	T_J, TDrain to Source Voltage		-55 to150	

solute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Case	$R_{\theta JC}$	1.2	/W
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	50	/W

Turn on Delay Time	$t_{d(on)}$	V_{DD}=50V, I_D=20A, V_{GS}=10V, R_G=10Ω,	-	14	-	ns
Rise time				10	-	
			-	50	-	
Fall Time	t_f		-	15	-	

Reverse Diode Characteristics

I		V_{GS}=0V, I_F=20A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=50V, I_F=20A, dI_F/dt=500A/μs	-	70	-	ns
Reverse Recovery Charge	Q_{rr}		-	315	-	nC

Fig 1. Typical Output Characteristics

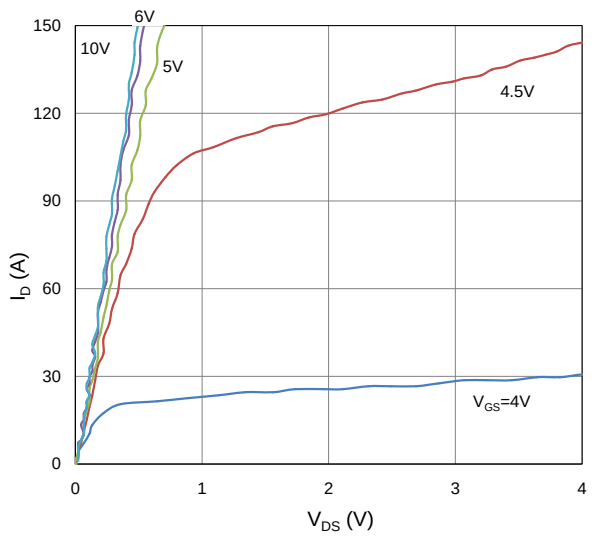


Figure 2. On-Resistance vs. Gate-Source Voltage

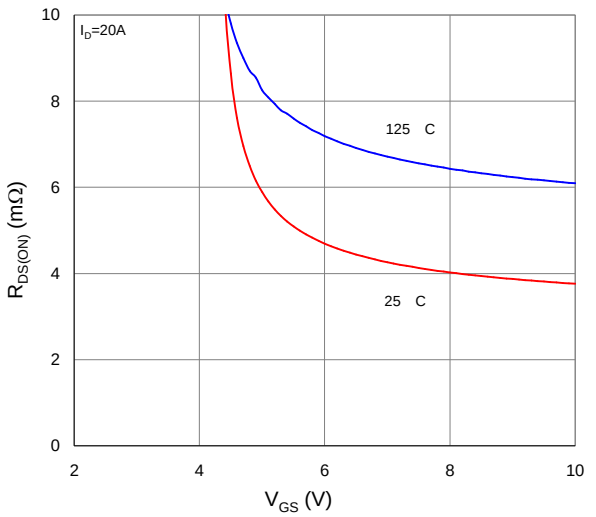


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

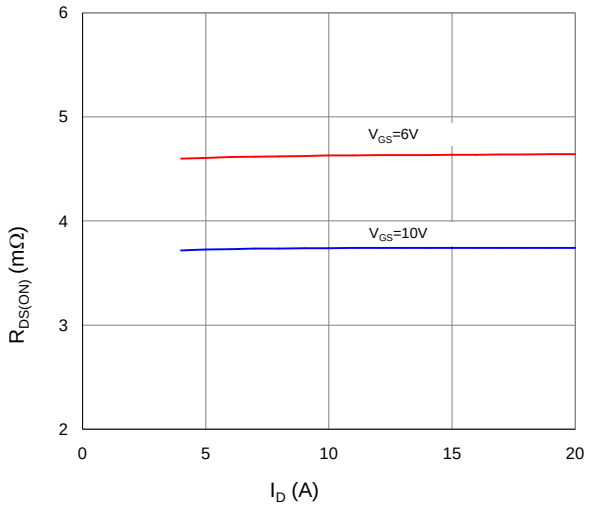


Figure 4. Normalized On-Resistance vs. Junction Temperature

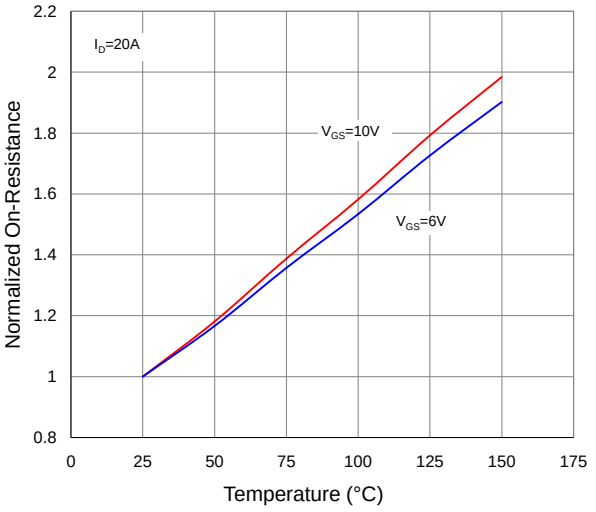


Figure 5. Typical Transfer Characteristics

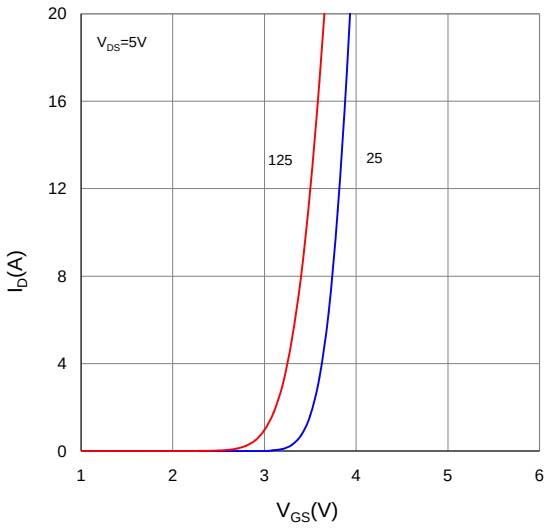


Figure 6. Typical Source-Drain Diode Forward Voltage

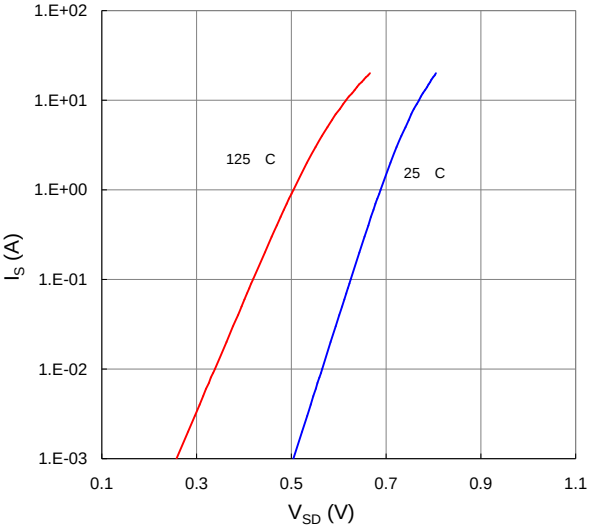


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

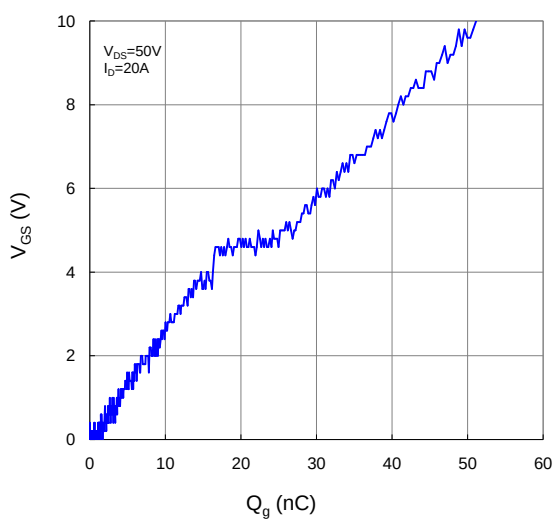


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

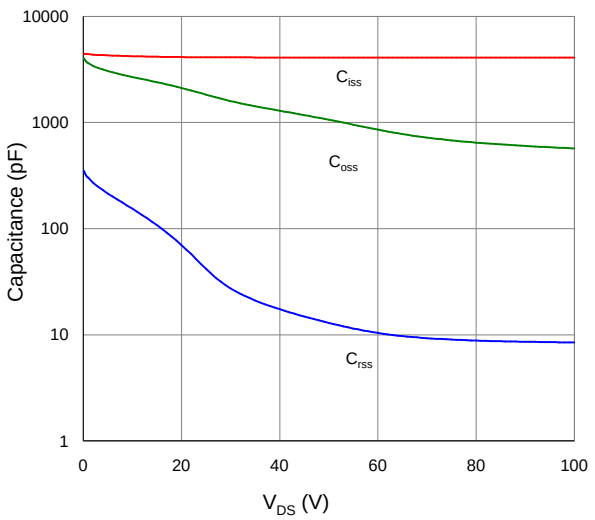


Figure 9. Maximum Safe Operating Area

Figure 10. Maximun Drain Current vs. Case Temperature

Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Case

Package Outline

DFN5x6_P, 8 Leads

Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A3	0.254 REF		0.010REF	
D	4.680	5.120	0.184	0.202
E	5.900	6.126	0.232	0.241
D1	3.610	4.110	0.142	0.162
E1	3.380	3.780	0.133	0.149
D2	4.800	5.000	0.189	0.197
E2	5.674	5.826	0.223	0.229
k	1.100	1.390	0.043	0.055
b	0.330	0.510	0.013	0.020
e	1.270TYP		1.270TYP	
L	0.510	0.711	0.020	0.028
L1	0.424	0.576	0.017	0.023
H	0.410	0.726	0.016	0.029
θ	0°	12°	0°	12°