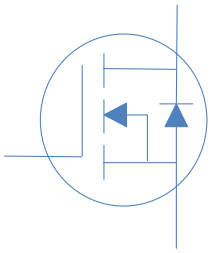
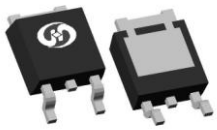
80V N-Ch Power MOSFET

V_{DS}	80	V
$R_{DS(on),typ}$	3.2	m
$I_{D\ (Silicon\ Limited)}$	144	A
$I_{D\ (Package\ Limited)}$	120	A





Part Number	Package	Marking
HGD035N08A	TO-252	GD035N08A

Absolute Maximum Ratings at T_j=25℃ (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C=25℃	144	A
		T_C=100℃	102	
Continuous Drain Current (Package Limited		T_C=25℃	120	
Drain to Source Voltage	V_{DS}	-	80	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	400	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.1mH, T_C=25℃	80	mJ
Power Dissipation	P_D	T_C=25℃	150	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	℃

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	46	℃/W
Thermal Resistance Junction-Case	R_{JC}	1	℃/W

			min			
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 A				
	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A	2.0			
		V_{GS}=10V, I_D=20A	-			
	g_{fs}	V_{DS}=5V, I_D=20A	-			
		V_{GS}=0V, V_{DS} Open, f=1MHz	-		-	
Dynamic Characteristics						
Input Capacitance	C_{iss}		-	4347		
Output Capacitance	C_{oss}	V_{GS}=0V, V_{DS}=40V, f=1MHz	-			
Reverse Transfer Capacitance	C_{rss}		-	28	-	
Total Gate Charge	Q_g(10V)		-	68	-	
Gate to Source Charge	Q_{gs}	V_{DD}=40V, I_D=20A, V_{GS}=10V	-	13	-	nC
Gate to Drain (Miller) Charge	Q_{gd}		-	17	-	
Turn on Delay Time	$t_{d(on)}$		-	15	-	
Rise time	t_r	V_{DD}=40V, I_D=20A, V_{GS}=10V,	-	12	-	ns
Turn off Delay Time	$t_{d(off)}$	R_G=10 ,	-	52	-	
Fall Time	t_f		-	19	-	
Reverse Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=20A	-	0.9	1.2	V

Fig 1. Typical Output Characteristics

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

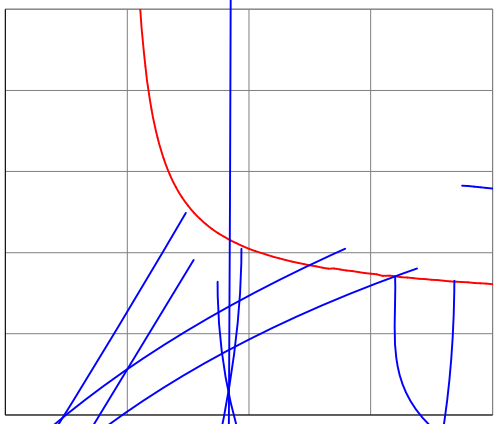


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

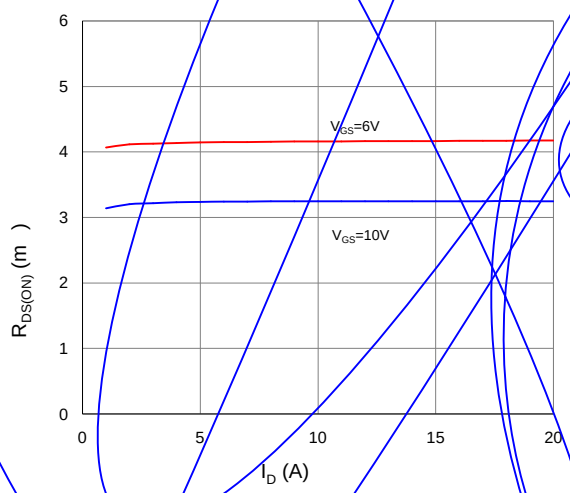


Figure 4. Normalized On-Resistance vs. Junction Temperature

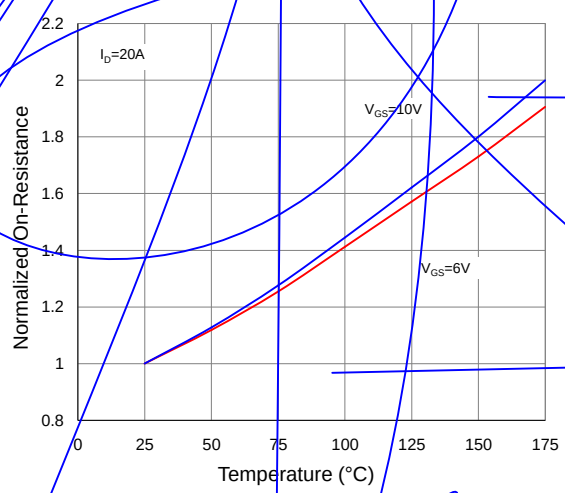


Figure 5. Typical Transfer Characteristics

Figure 6. Typical Source-Drain Diode Forward Voltage

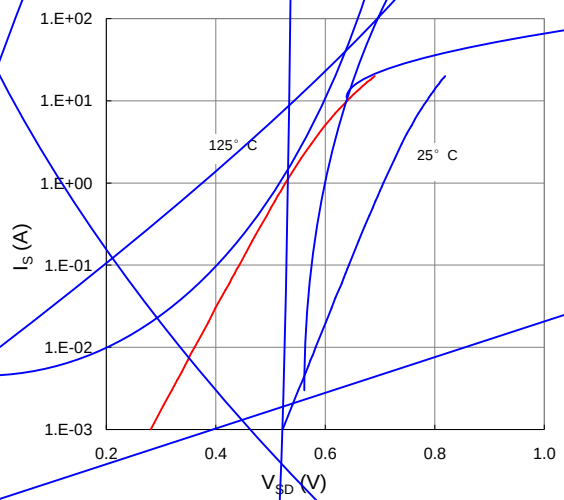


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

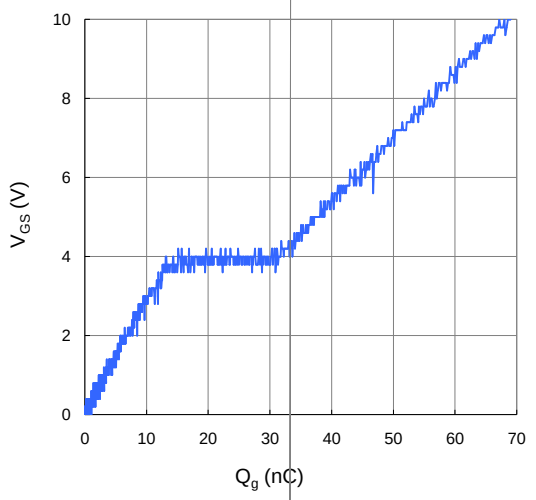


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

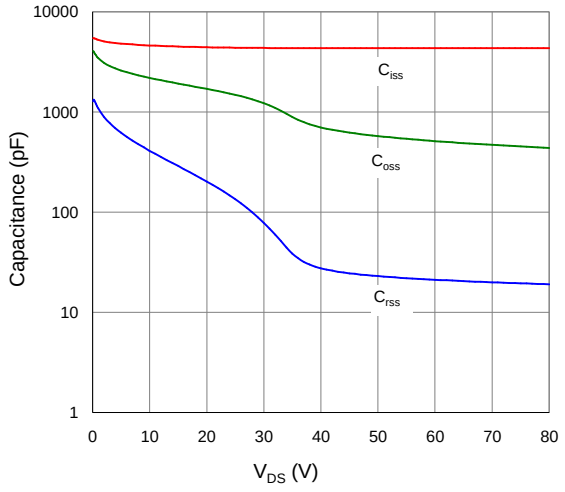


Figure 9. Maximum Safe Operating Area

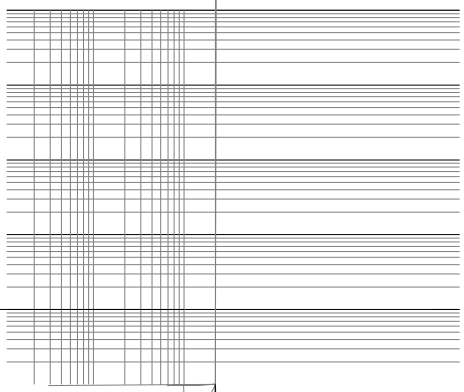


Figure 10. Maximun Drain Current vs. Case Temperature

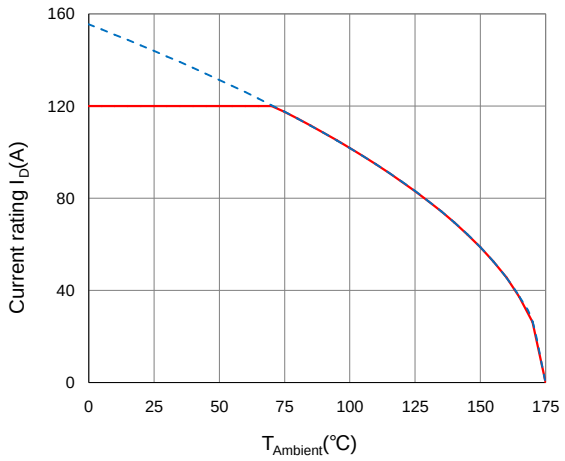
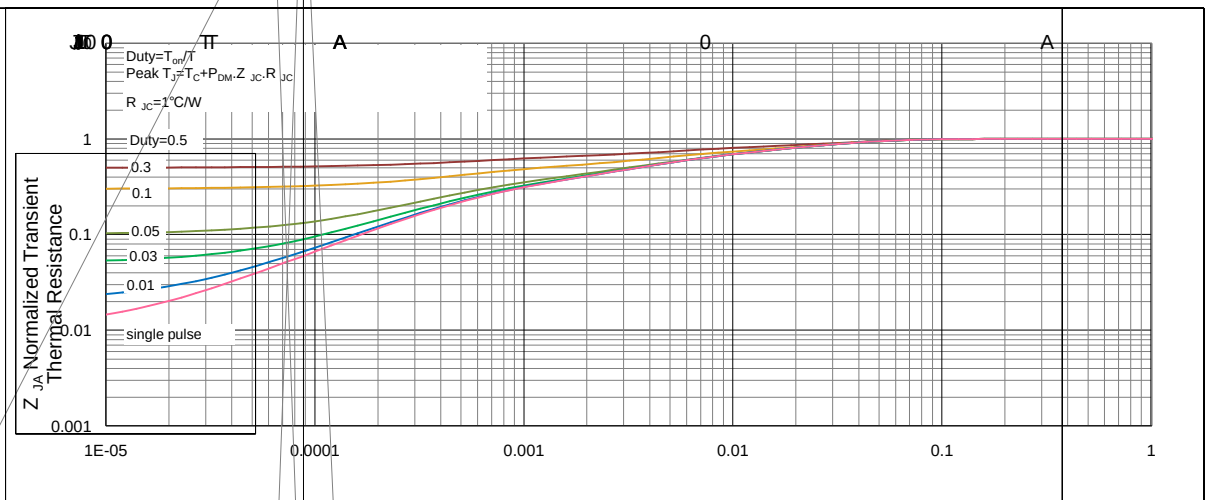


Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



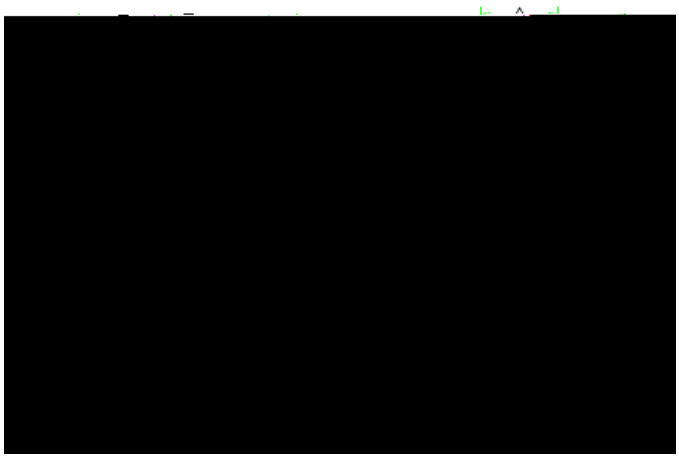
Inductive switching Test

Gate Charge Test

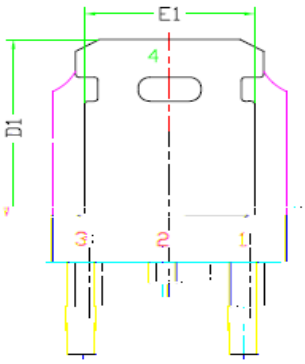
Uclamped Inductive Switching (UIS) Test

Package Outline

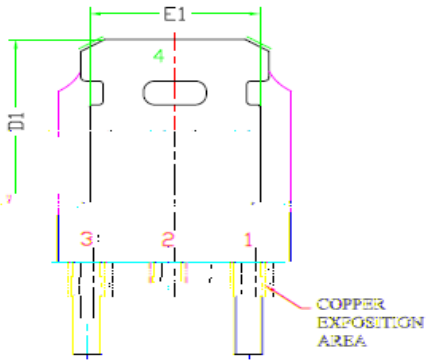
TO-252, 3 leads



SYMBOL	DIMENSIONAL REQMTS		
	MIN	NOM	MAX
E	6.40	6.60	6.731
L	1.40	1.52	1.77
L1		2.743 REF	
L2		0.508 BSC	
L3	0.89	--	1.27
L4	0.64	--	1.01
L5	--	--	--
D	6.00	6.10	6.223



SINGLE ROW(NEW)



MATRIX L/F