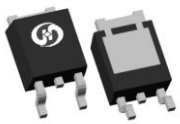
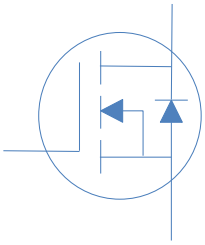
150V N-Ch Power MOSFET

V_{DS}	150	V
$R_{DS(on),typ}$	16.0	m
$I_{D\ (Sillicon\ Limited)}$	56	A





Part Number	Package	Marking
HGD195N15S	TO-252	GD195N15S

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℃	56	A
		T_C=100℃	40	
Drain to Source Voltage	V_{DS}	-	150	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	180	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C=25℃	80	mJ
Power Dissipation	P_D	T_C=25℃	136	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to 175	℃

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	50	℃/W
Thermal Resistance Junction-Case	R_{JC}	1.1	℃/W

Electrical Characteristics at T_j=25℃ (unless otherwise specified)

Static Characteristics

Parameter	Symbol	Conditions	Value min	Value typ	Value max	Unit
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 A	150	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250 A	2	3	4	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=150V, T_j=25℃	-	-	1	A
		V_{GS}=0V, V_{DS}=150V, T_j=100℃	-	-	100	
Gate to Source Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	-	-	±100	nA
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	-	16	19.5	m
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A	-	55	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} Open, f=1MHz	-	2.2	-	

Dynamic Characteristics

Reverse Transfer Capacitance	C_{rss}				-	pF
						nC

Fig 1. Typical Output Characteristics	Figure 2. On-Resistance vs. Gate-Source Voltage

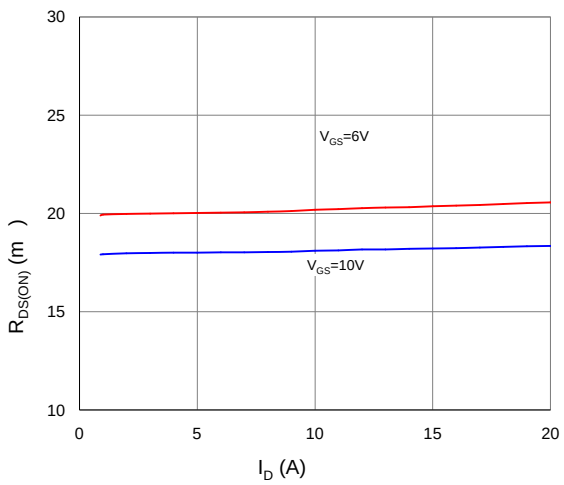
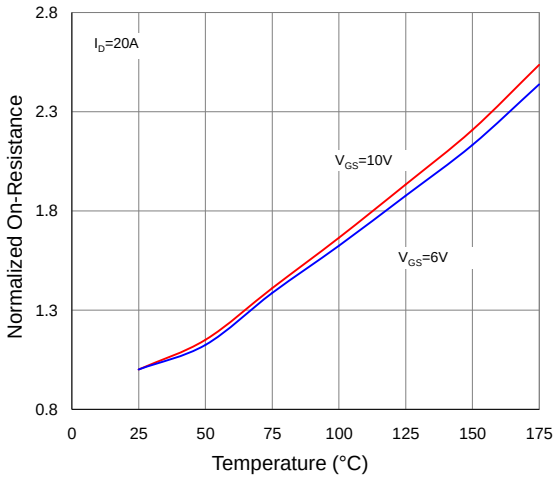
Figure 3. On-Resistance vs. Drain Current and Gate Voltage	Figure 4. Normalized On-Resistance vs. Junction Temperature
	

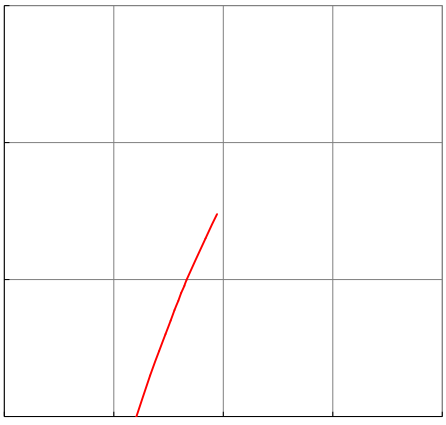
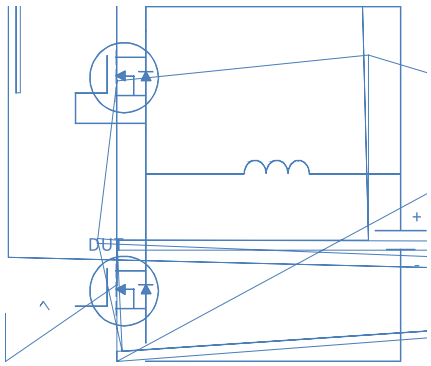
Figure 5. Typical Transfer Characteristics	Figure 6. Typical Source-Drain Diode Forward Voltage
	

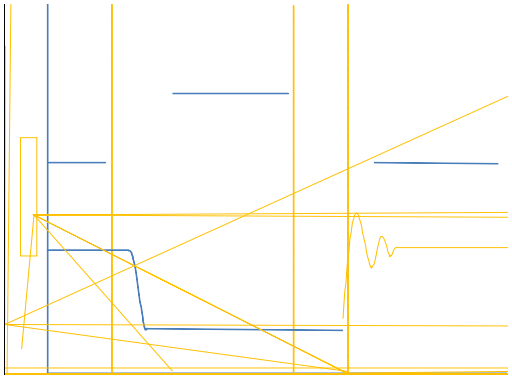
Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

Figure 9. Maximum Safe Operating Area	Figure 10. Maximun Drain Current vs. Case Temperature

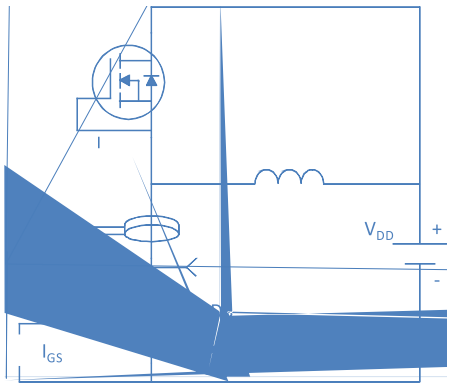
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient

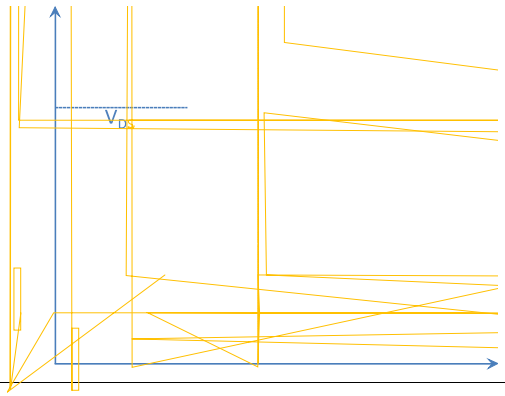
Inductive switching Test



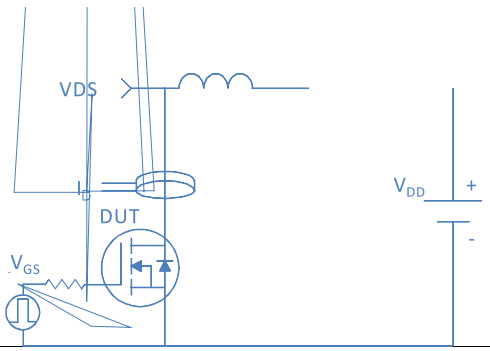


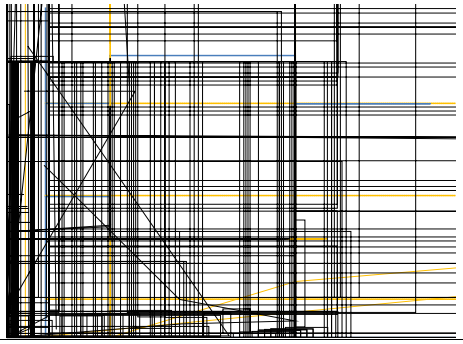
Gate Charge Test



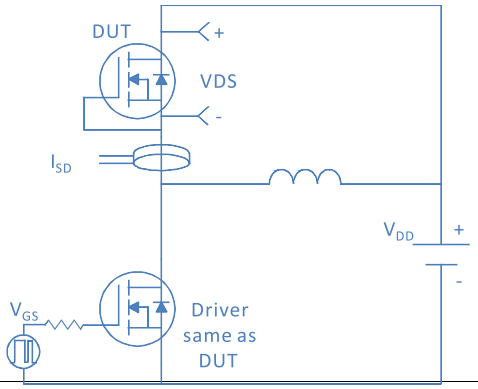


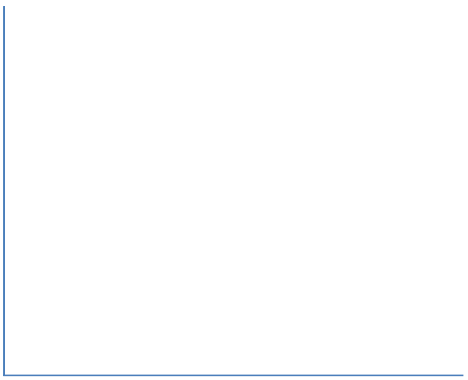
Uclamped Inductive Switching (UIS) Test





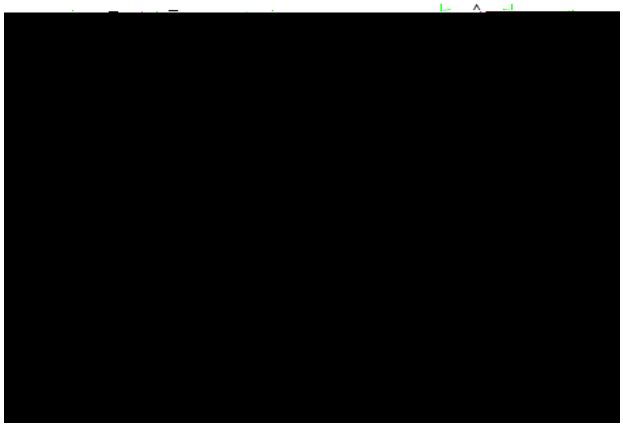
Diode Recovery Test



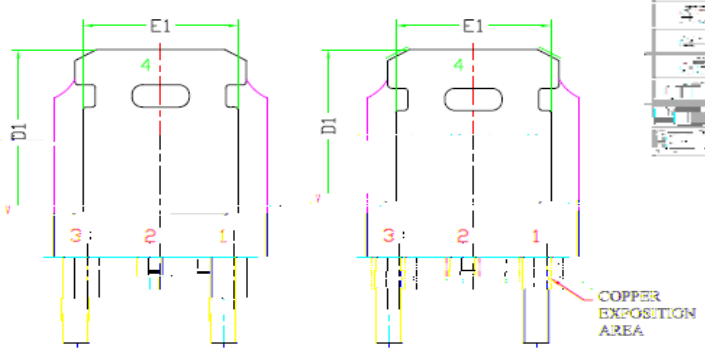


Package Outline

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