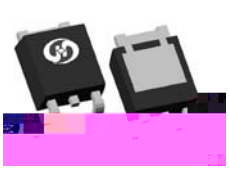
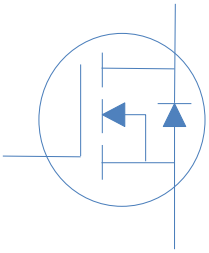
60V N-Ch Power MOSFET

V_{DS}		60	V
$R_{DS(on),typ}$	V_{GS}=10V	7.3	mΩ
$R_{DS(on),typ}$	V_{GS}=4.5V	10	mΩ
$I_{D\ (Sillicon\ Limited)}$		61	A
$I_{D\ (Package\ Limited)}$		40	A





Part Number	Package	Marking
HGI090N06SL	TO-251	GI090N06SL
HGD090N06SL	TO-252	GD090N06SL

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℃	61	A
		T_C=100℃	43	
Continuous Drain Current (Package Limited)		T_C=25℃	40	
Drain to Source Voltage	V_{DS}	-	60	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	270	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C=25℃	20	mJ
Power Dissipation	P_D	T_C=25℃	75	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	℃

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	65	℃/W
Thermal Resistance Junction-Case	$R_{\theta JC}$	2	℃/W

Fig 1. Typical Output Characteristics

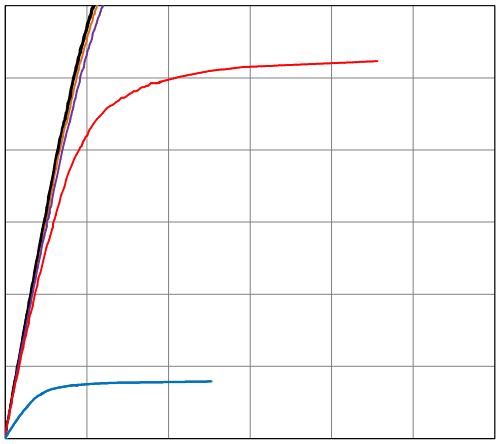


Figure 2. On-Resistance vs. Gate-Source Voltage

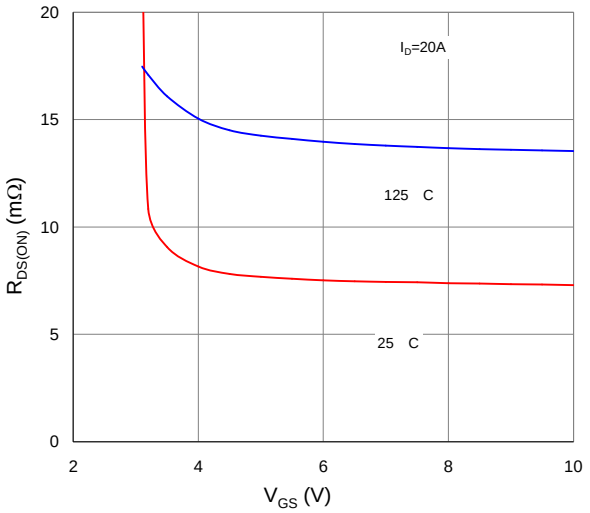


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

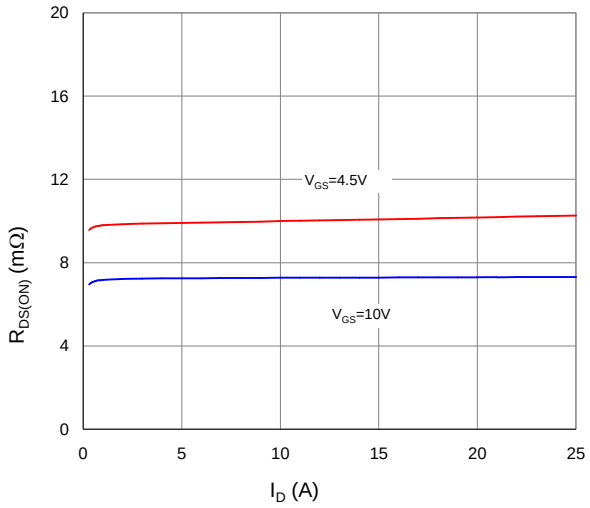


Figure 4. Normalized On-Resistance vs. Junction Temperature

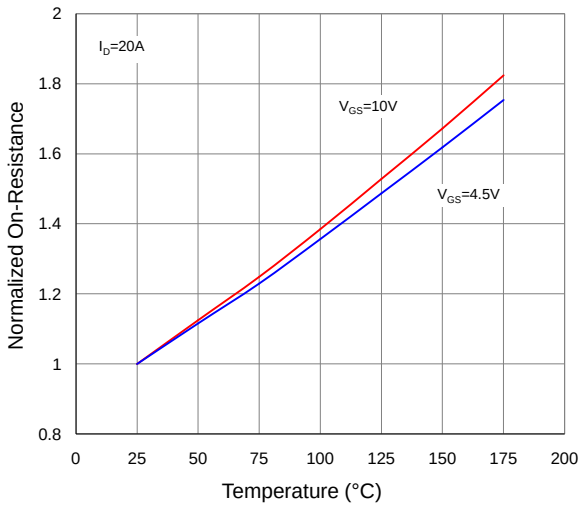


Figure 5. Typical Transfer Characteristics

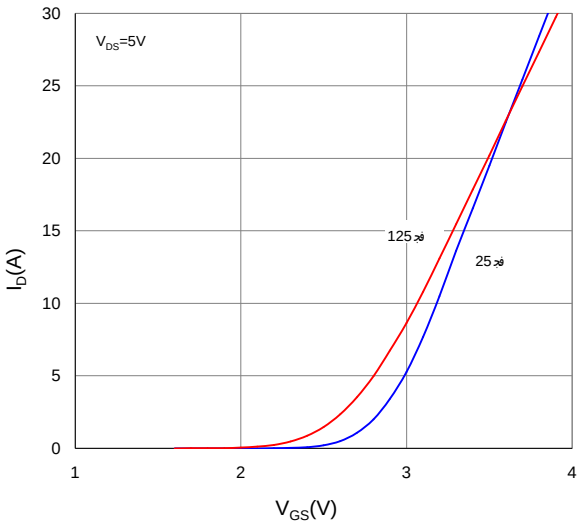


Figure 6. Typical Source-Drain Diode Forward Voltage

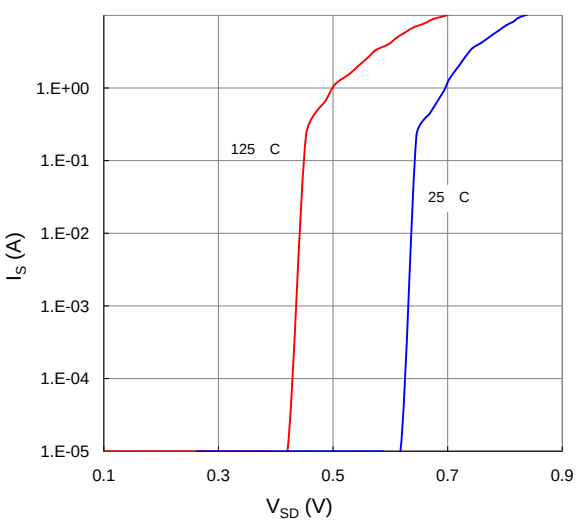


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

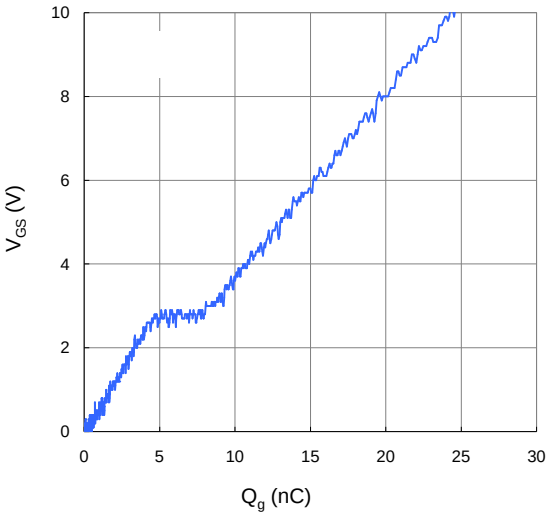


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

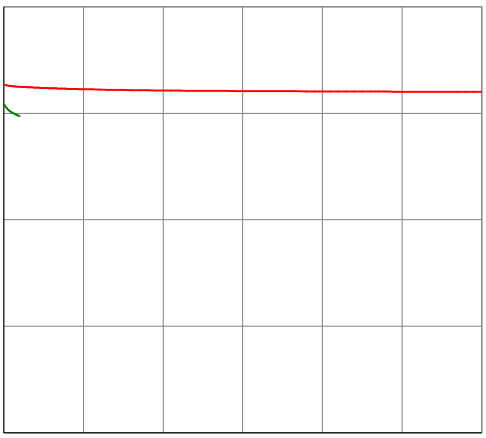


Figure 9. Maximum Safe Operating Area

Figure 10. Maximun Drain Current vs. Case Temperature

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

Inductive switching Test	

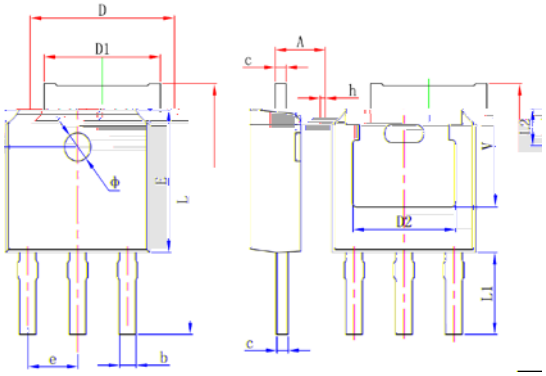
Gate Charge Test	

Uclamped Inductive Switching (UIS) Test	

Diode Recovery Test	

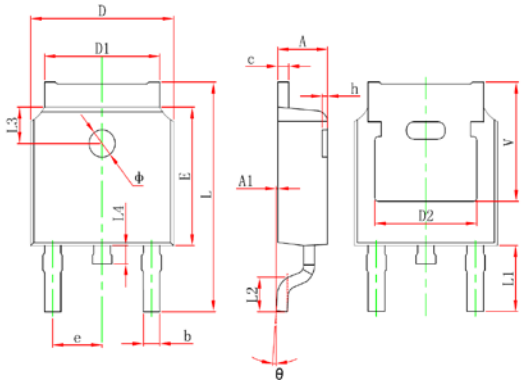
Package Outline

TO-251, 3 leads



Symbol	Dimensions In Millimeters			Dimensions In Inches	
	Min.	Max.		Min.	Max.
A	2.200	2.400		0.087	0.094
b	0.660	0.860		0.026	0.034
c	0.460	0.580		0.018	0.023
D	6.500	6.700		0.256	0.264
D1	5.100	5.460		0.201	0.215
0.190 REF.			D2	4.830 REF.	
0.236	0.244		E	6.000	6.200
0.086	0.094		e	2.186	2.386
0.409	0.433		L	10.400	11.000
0.138 REF.			L1	3.500 REF.	
0.063 REF.			L2	1.600 REF.	
0.300	0.500	0.051	Φ	1.100	
0.300	0.000	0.012	h	0.000	
REF.	0.211 REF.		V	5.350 R	

TO-252, 2 leads



Max.	Symbol	Min.	Max.	Min.
0.094	A	2.200	2.400	0.087
0.005	A1	0.000	0.127	0.000
0.034	b	0.660	0.860	0.026