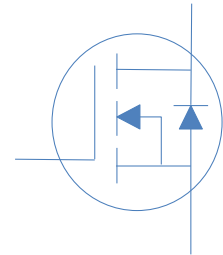


## 100V N-Ch Power MOSFET

$V_{DS}$		100	V
$R_{DS(on),typ}$	$V_{GS}=10V$	15.2	m $\Omega$
$R_{DS(on),typ}$	$V_{GS}=4.5V$	19.7	m $\Omega$
$R_{DS(on),typ}$	$V_{GS}=10V$	15.5	m $\Omega$
$R_{DS(on),typ}$	$V_{GS}=4.5V$	20.0	m $\Omega$
$I_D$		47	A



Part Number	Package	Marking
HGB200N10SL	TO-263	GB200N10SL
HGP200N10SL	TO-220	GP200N10SL

Absolute Maximum Ratings at  $T_J=25$  (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	$I_D$	$T_C=25$	47	A
		$T_C=100$	33	
Drain to Source Voltage	$V_{DS}$	-	100	V
Gate to Source Voltage	$V_{GS}$	-	$\pm 20$	V
Pulsed Drain Current	$I_{DM}$	-	200	A
Avalanche Energy, Single Pulse	$E_{AS}$	$L=0.4mH, T_C=25$	45	mJ
Power Dissipation	$P_D$	$T_C=25$	79	W
Operating and Storage Temperature	$T_J, T_{stg}$	-	-55 to 175	

## Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	65	$^{\circ}W$
Thermal Resistance Junction-Case	$R_{\theta JC}$	1.9	$^{\circ}W$

Electrical Characteristics at  $T_J=25$  (unless otherwise specified)

## Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	100	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}, I_D=250\mu A$	1.4	2.0	2.4	
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{GS}=0V, V_{DS}=100V, T_J=25$	-	-	1	$\mu A$
		$V_{GS}=0V, V_{DS}=100V, T_J=100$	-	-	100	
Gate to Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	$\pm 100$	nA
Drain to Source on Resistance	$R_{DS(on)}$		-	15.5	20	$m\Omega$
			-	20	26	
			-	33	-	
Gate Resistance	$R_G$	$V_{GS}=0V, V_{DS}$ Open, $f=1MHz$	-	1.5	-	$\Omega$
			-	1.5	-	
Output Capacitance	$C_{OSS}$	$V_{GS}=0V, V_{DS}=50V, f=1MHz$	-	1350	-	
			-	7	-	
	$C_{RSS}$		-			



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	

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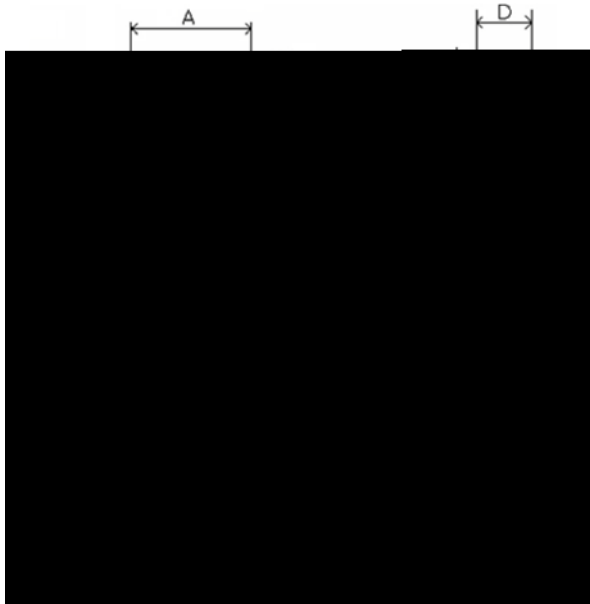
Inductive switching Test

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Package Outline

TO-220, 3 leads

Dimensions in mm unless otherwise specified



Symbol	Min	Nom	Max
A	9.66	9.97	10.28
A2	9.80	10.00	10.20
B	15.60	15.70	15.80
C	12.70	13.48	14.27
D	4.30	4.50	4.70
E	9.00	9.20	9.40
F		2.54	
G1	1.32	1.52	1.72
G2	0.70	0.82	0.95
G3	0.45	0.52	0.60
H	3.50	3.60	3.70
I	2.70	2.80	2.90
J	15.70	15.97	16.25
K	2.20	2.40	2.60
L	1.15	1.27	1.40
N	6.40	6.60	6.80

TO-263, 2 leads

Dimensions in mm unless otherwise specified

Symbol	Min	Nom	Max
A	9.66	9.97	10.28
B	1.02	1.17	1.32
C	8.59	9.00	9.40
D1	1.14	1.27	1.40
D2	0.70	0.83	0.95
D3		5.08	
E	15.09	15.24	15.39
F	1.15	1.28	1.40
G	4.30	4.50	4.70
H	2.29	2.54	2.79
I		0.25	
K	1.30	1.45	1.60
a1	0.45	0.55	0.65
a2(degree)	0°		8°