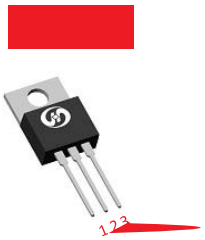
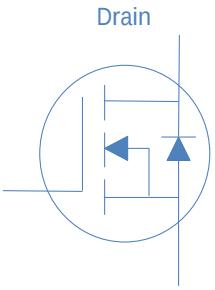
Hunteck

100V N-Ch Power MOSFET

V_{DS}		100	V
$R_{DS(on),typ}$	TO-263	3.4	mΩ
$R_{DS(on),typ}$	TO-220	3.7	mΩ
I_D		161	A





Part Number	Package	Marking
HGB042N10S	TO-263	GB042N10S
HGP042N10S	TO-220	GP042N10S

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

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current	I_D	T_C=25	161	A
		T_C=100	114	
Drain to Source Voltage	V_{DS}	-	100	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	450	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.1mH, T_C=25	180	mJ
Power Dissipation	P_D	T_C=25	214	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to175	

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Case	$R_{\Theta JC}$	0.7	/W
Thermal Resistance Junction-Ambient	$R_{\Theta JA}$	60	/W

Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	100	-	-	
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250μA	2	3	4	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=100V	-	-	1	
		V_{GS}=0V, V_{DS}=100V, T_j=100	-	-	100	
			-	-	±100	
Drain to Source on Resistance	[illegible]	[illegible]	-	3.1	3.9	
Drain to Source on Resistance	$R_{DS(on)}$	V_{GS}=10V, I_D=20A	-	3.7	4.2	mΩ
Transconductance	g_{fs}			70	-	
					-	
					-	
				13		
				52	-	

Fig 1. Typical Output Characteristics

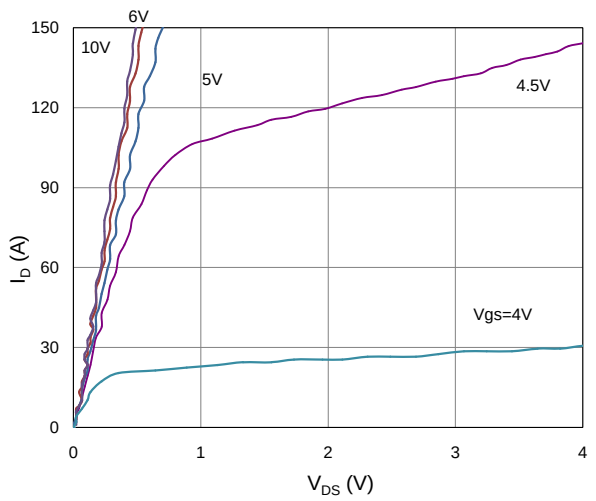


Figure 2. On-Resistance vs. Gate-Source Voltage

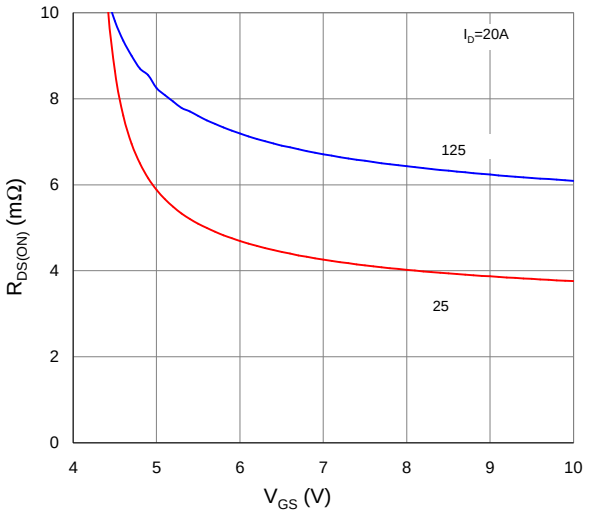


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

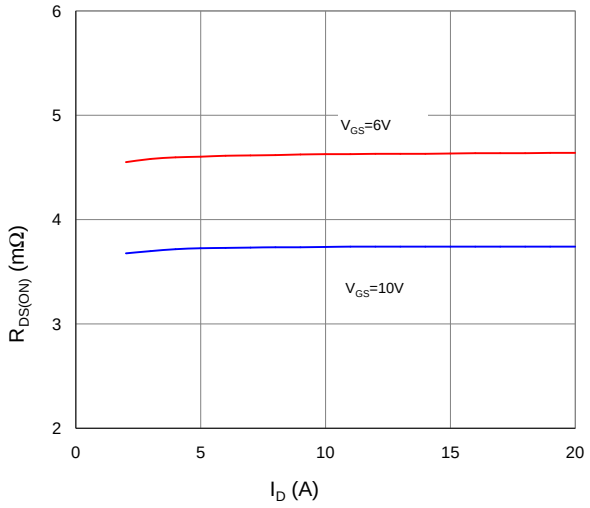


Figure 4. Normalized On-Resistance vs. Junction Temperature

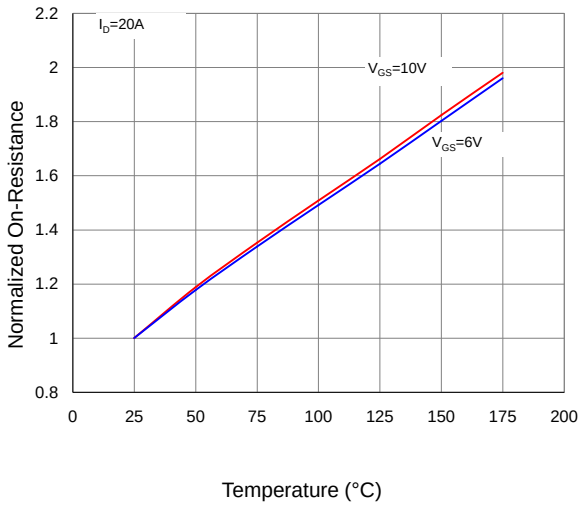


Figure 5. Typical Transfer Characteristics

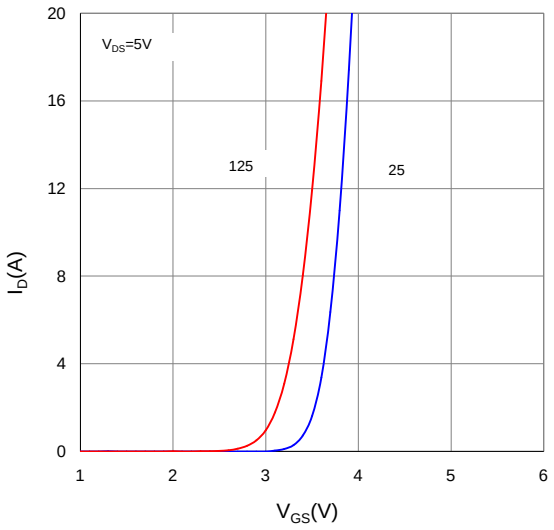


Figure 6. Typical Source-Drain Diode Forward Voltage

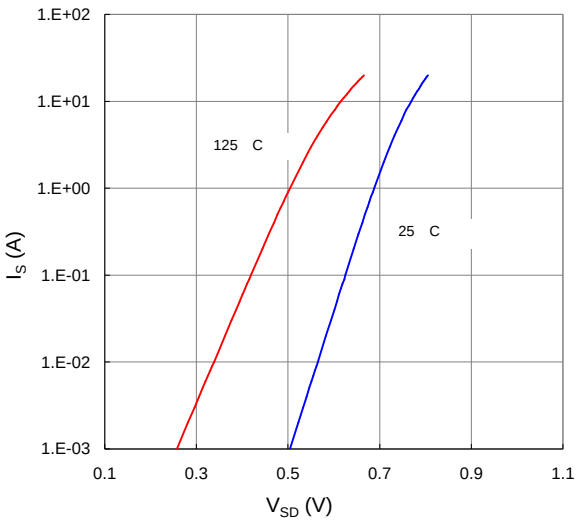


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage	Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

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

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

Uclamped Inductive Test

May.2018

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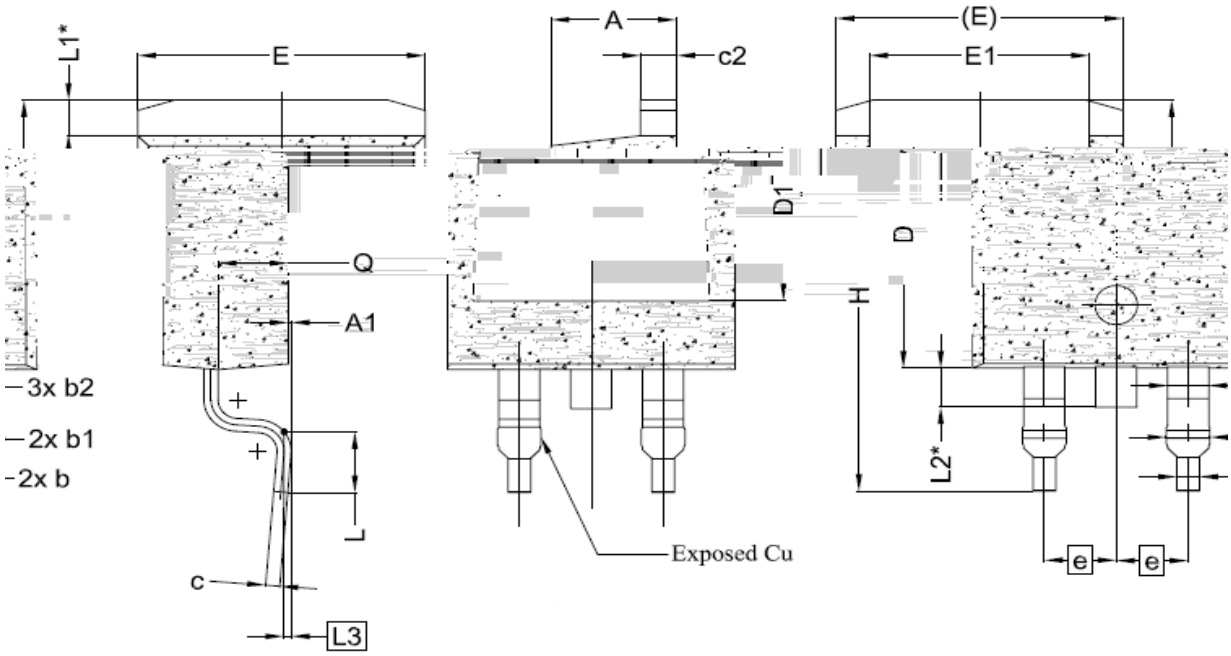
TO-263, 3 leads



SYMBOL	DIMENSIONS		
	MIN.	NOM.	MAX.
A	4.24	4.44	4.64
A1	0.00	0.10	0.25
b	0.70	0.80	0.90
b1	1.20	1.55	1.75
b2	1.20	1.45	1.70
c	0.40	0.50	0.60
c2	1.15	1.27	1.40
D	8.82	8.92	9.02
D1	6.86	7.65	—
E	9.96	10.16	10.36
E1	6.89	7.77	7.89
e	2.54 BSC		
H	14.61	15.00	15.88
L	1.78	2.32	2.79
L1	1.36 REF.		
L2	1.50 REF.		
L3	0.25 BSC		
Q	2.30	2.48	2.70