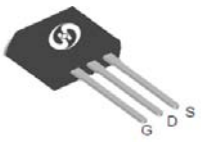
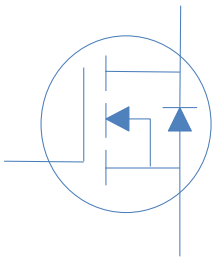
iunteck

120V N-Ch Power MOSFET

V_{DS}		120	V
$R_{DS(on),typ}$	TO-262	8.6	m
$I_{D\ (Sillicon\ Limited)}$		109	A





Part Number	Package	Marking
	TO-262	

Absolute Maximum Ratings at T_j

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	T_C	109	A
		T_C	77	
Drain to Source Voltage	V_{DS}	-	120	V
Gate to Source Voltage	V_{GS}	-	±20	V
Pulsed Drain Current	I_{DM}	-	300	A
Avalanche Energy, Single Pulse	E_{AS}	L=0.4mH, T_C	320	mJ
Power Dissipation	P_D	T_C	214	
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	
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	50	

Electrical Characteristics at T_j

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	typ	max	
Drain to Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250 A	120	-	-	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}=120V, T_j	-	-	1	A
		V_{GS}=0V, V_{DS}=120V, T_j	-	-	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 TO-262	-	8.6	10	m
Transconductance	g	V_{DS}=5V, I_D=20A	-	65	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS}	-	3.5	-	

Dynamic Characteristics

Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}	-	4470	-	pF
Output Capacitance	C_{oss}		-	235	-	
	C_{rss}		-	9.5	-	
Total Gate Charge	Q_g	V_{DD}=60V, I_D=20A, V_{GS}=10V	-	56	-	nC
Gate to Source Charge	Q_{gs}		-	18	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	6	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=60V, I_D=20A, V_{GS}=10V, R_G=10 ,	-	16	-	ns
Rise time	t_r		-	21	-	
	t		-	38	-	
Fall Time	t		-	19	-	

Reverse Diode Characteristics

Diode Forward Voltage	V_{SD}	V_{GS}=0V, I_F=20A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=60V, I_F=20A, dI_F s	-	70	-	ns
Reverse Recovery Charge	Q_{rr}		-	600	-	nC

Fig 1. Typical Output Characteristics

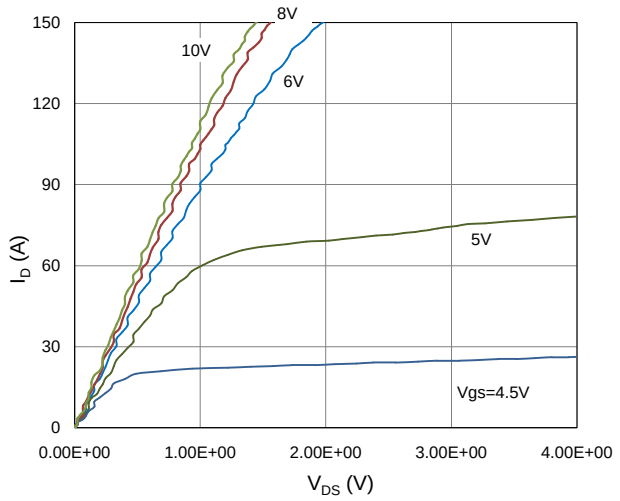


Figure 2. On-Resistance vs. Gate-Source Voltage

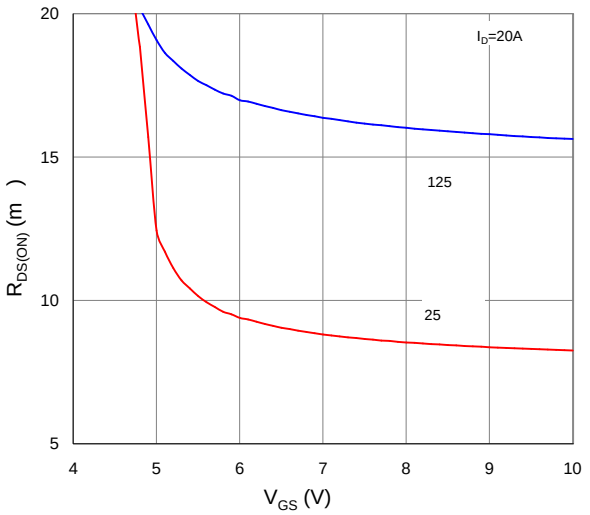
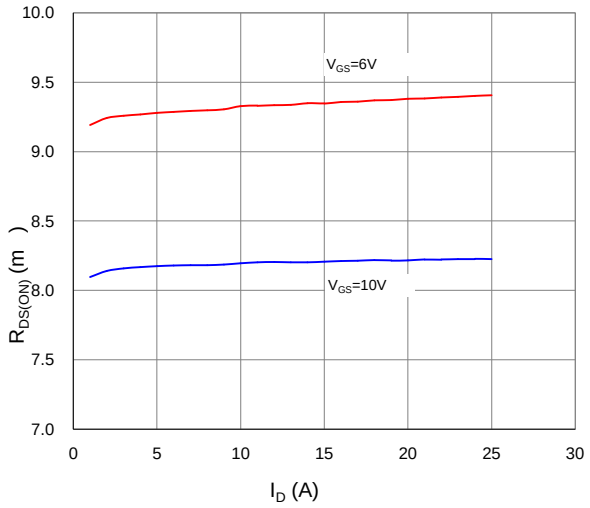
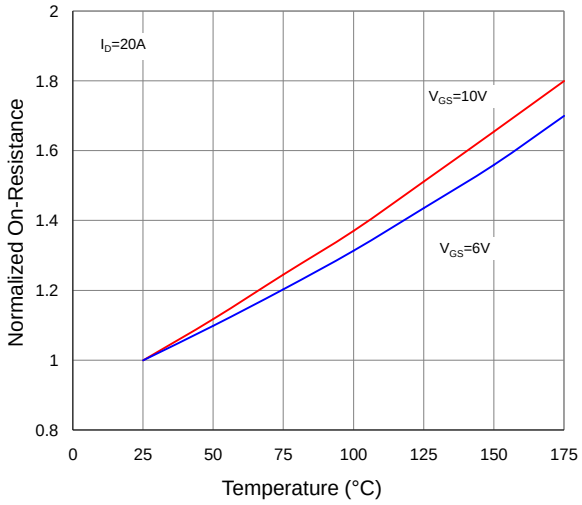


Figure 3. On-Resistance vs. Drain Current and Gate Voltage





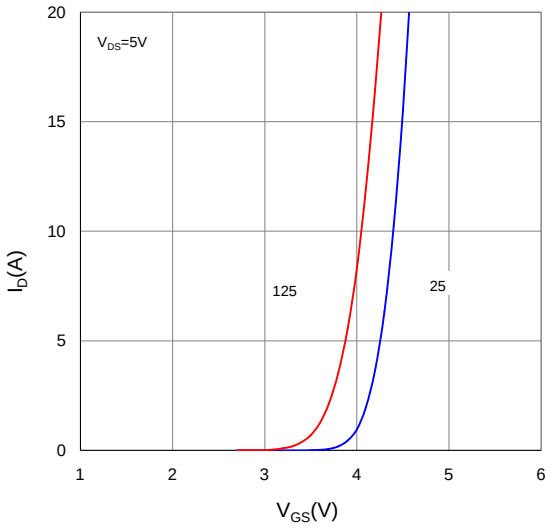
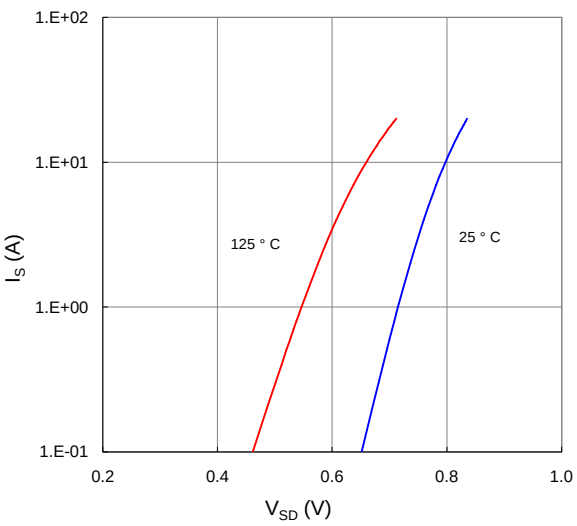
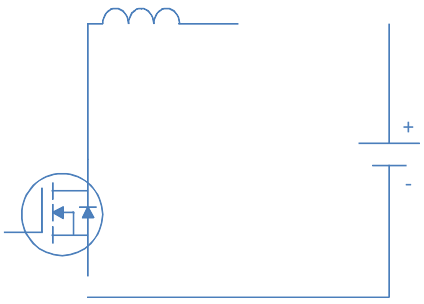


Figure 6. Typical Source-Drain Diode Forward Voltage



Inductive switching Test	

Gate Charge Test	

Uclamped Inductive Switching (UIS) Test	
	

Diode Recovery Test	

Unit: mm

DIM	
A	9.98±0.2
a	7.4±0.4
	1.3±0.05
h1	9.16±0.2
h2	13.2±0.2
L	0.5±0.1
l1	1.3±0.1
l2	0.8±0.1
N	2.45±0.1