9 1 &K 3RZHU (

Feature

- High Speed Power Smooth Switching, Logic Level
- Enhanced Body diode dv/dt capability
- Enhanced Avalanche Ruggedness
- 100% UIS Tested 100% Rg Tested
- Lead Free

V_{DS}	150	V
R ' 6 RQ W \ S	9	m :
	9	m :

Application

- Synchronous Rectification in SMPS
- Hard Switching and High Speed Circuit
- Power Tools
- UPS
- Motor Control

TO-262

Electrical Characteristics at T_j XQOHVV RWKHUZLVH VSHFLILHG

Static Characteristics

Parameter	Symbol	Conditions	Value			Unit
			min	W\S	max	
'UDLQ WR 6RXUFH %UHDNGRZQ 9ROWDJH	$V_{(BR)DSS}$	V_{GS}=0V, I_D=250μA	150	-	-	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{GS}=V_{DS}, I_D=250μA	1	1.9	3	
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0V, V_{DS}=150V, T_j	-	-	1	μA
		V_{GS}=0V, V_{DS}=150V, 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	-	9	10.5	mΩ
		V_{GS}=10V, I_D=4.5A	-	9.8	12.5	
Transconductance	g_{fs}	V_{DS}=5V, I_D=20A	-	80	-	S
Gate Resistance	R_G	V_{GS}=0V, V_{DS} 2SHQ I 0+]	-	0.7	-	Ω

Dynamic Characteristics

,QSXW &DSDFLWDQFH	C_{iss}	V_{GS}=0V, V_{DS} 9 I 0+]	-	4059	-	pF
2XWSXW &DSDFLWDQFH	C_{oss}		-	302	-	
5HYHUVH 7UDQVIHU &DSDFLWDQFH	C_{rss}		-	11	-	
Total Gate Charge	Q_g (10V)	V_{DD}=75V, I_D=20A, V_{GS}=10V	-	57	-	nC
Total Gate Charge	Q_g (4.5V)		-	26	-	
Gate to Source Charge	Q_{gs}		-	12	-	
Gate to Drain (Miller) Charge	Q_{gd}		-	10	-	
Turn on Delay Time	$t_{d(on)}$	V_{DD}=75V, I_D=20A, V_{GS}=10V, R_G=10Ω,	-	20	-	ns
Rise time	t_r		-	10	-	
7XUQ RII 'HOD\ 7LPH	$t_{d(off)}$		-	32	-	
)DOO 7LPH	t_f		-	12	-	

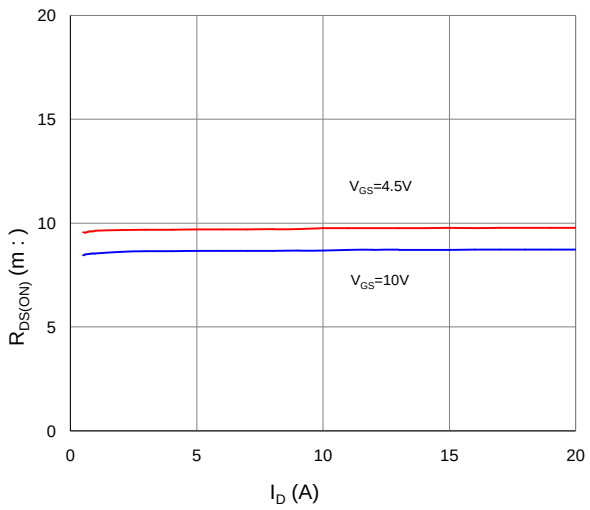
Reverse Diode Characteristics

'LRGH)RUZDUG 9ROWDJH	V_{SD}	V_{GS}=0V, I_S=20A	-	0.9	1.2	V
Reverse Recovery Time	t_{rr}	V_R=75V, I_S=20A, dI/dt 100A/μs	-	95	-	ns
Reverse Recovery Charge	Q_{rr}		-	285	-	nC

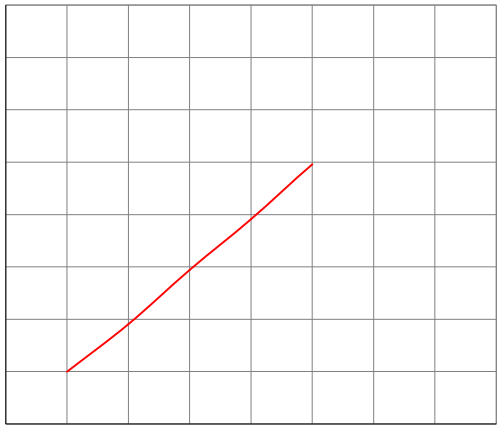
)LJ 7\SLFDO 2XWSXW &KDUDFWHULVWLFV

)LJXUH 2Q 5HVLVWDQFH YV *DWH 6RXUFH 9ROWD

)LJXUH 2Q 5HVLVWDQFH YV 'UDLQ &XUUHQW



)LJXUH -XQFWLRQ 7HPSHUDWXUH YV

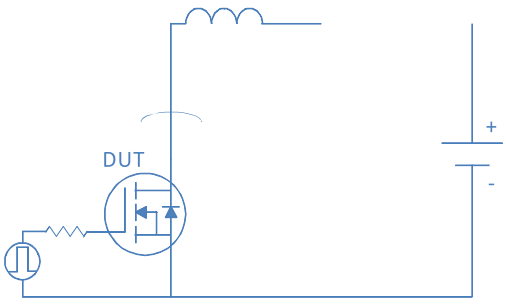


)LJXUH 7\SLFDO 7UDQVIHU &KDUDFWHULVWLFV

)LJXUH 7\SLFDO 6RXUFH 'UDLQ 'LRGH)RUZDUG 9R

,QGXFWLYH VZLWFKLQJ 7HVW	

Gate Charge Test	

8FODPSHG ,QGXFWLYH 6ZLWFKLQJ 8,6 7HVW	
	

Diode Recovery Test	

TO-262, 3 leads

Unit: mm

DIM	MILLIMETERS
A	9.98±0.2
a	7.4±0.4
B	4.5±0.2
b1	1.3±0.05
b2	2.4±0.2
H	23.9±0.3
h	3.1±0.2
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