Features

- Fast Switching
- Improved dv/dt Capability
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

N-CHANNEL MOSFET

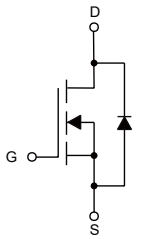
Maximum Ratings

- Operating Junction Temperature Range : -55°C to +175°C
- Storage Temperature Range : -55°C to +175°C
- Thermal Resistance : 1.76°C/W Junction to Case

Parameter		Symbol	Value
Drain-source Voltage		V_{DS}	60V
Gate-source Volltage		V_{GS}	±20V
Drain Current	T_C=25°C	I_D	80A
	T_C=100°C		56A
Pulsed Drain Current		I_{DM}	240A
Power Dissipation		P_D	68W
Single Pulsed Avalanche Energy(1)		E_{AS}	225mJ

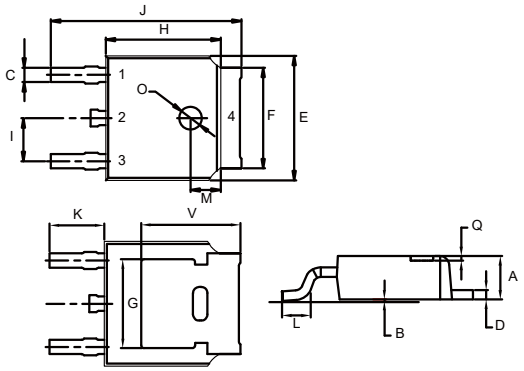
Note: 1. E_{AS} Condition: Tj=25℃,V_{DD}=30V,V_G=10V,L=0.5mH,R_g=25Ω

Internal Structure



1.GATE
2.DRAIN
3.SOURCE
4.DRAIN

DPAK



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.087	0.094	2.20	2.40	
B	0.000	0.005	0.00	0.13	
C	0.026	0.034	0.66	0.86	
D	0.018	0.023	0.46	0.58	
E	0.256	0.264	6.50	6.70	
F	0.201	0.215	5.10	5.46	
G	0.190		4.83		TYP.
H	0.236	0.244	6.00	6.20	
I	0.086	0.094	2.18	2.39	
J	0.386	0.409	9.80	10.40	
K	0.114		2.90		TYP.
L	0.055	0.067	1.40	1.70	
M	0.063		1.60		TYP.
O	0.043	0.051	1.10	1.30	
Q	0.000	0.012	0.00	0.30	
V	0.211		5.35		TYP.

ELECTRICAL CHARACTERISTICS (Ta=25℃ unless otherwise specified)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V I_D=250μA	60	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=60V,V_{GS}=0V	-	-	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0V	-	-	±100	nA
On Characteristics						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS},I_D=250μA	1.2	1.7	2.2	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=30A	-	6.6	8	mΩ
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=4.5V, I_D=30A	-	9.3	11	mΩ
Forward Transconductance	g_{FS}	V_{DS}=5V,I_D=30A	30	-	-	S
Dynamic Characteristics						
Input Capacitance	C_{lss}	V_{DS}=30V,V_{GS}=0V, F=1.0MHz	-	1990	-	PF
Output Capacitance	C_{oss}		-	470	-	PF
Reverse Transfer Capacitance	C_{rss}		-	14	-	PF
Switching Characteristics						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=30V,I_D=2A,R_L=1Ω V_{GS}=10V,R_{GEN}=3Ω	-	16	-	nS
Turn-on Rise Time	t_r		-	8	-	nS
Turn-Off Delay Time	$t_{d(off)}$		-	45	-	nS
Turn-Off Fall Time	t_f		-	33	-	nS
Total Gate Charge	Q_g	V_{DS}=30V,I_D=20A, V_{GS}=10V	-	31	-	nC
Gate-Source Charge	Q_{gs}		-	6	-	nC
Gate-Drain Charge	Q_{gd}		-	5	-	nC
Drain-Source Diode Characteristics						
Diode Forward Voltage	V_{SD}	V_{GS}=0V,I_S=30A	-	-	1.2	V
Diode Forward Current	I_S		-	-	80	A
Reverse Recovery Time	t_{rr}	TJ = 25℃, IF =30A di/dt = 100A/μs	-	35		nS
Reverse Recovery Charge	Q_{rr}		-	47		nC
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

Curve Characteristics

Fig. 1-Output Characteristics

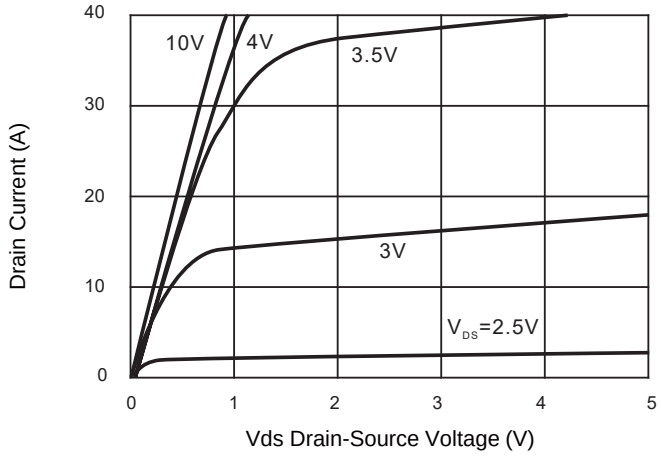


Fig. 2-Rdson-JunctionTemperature

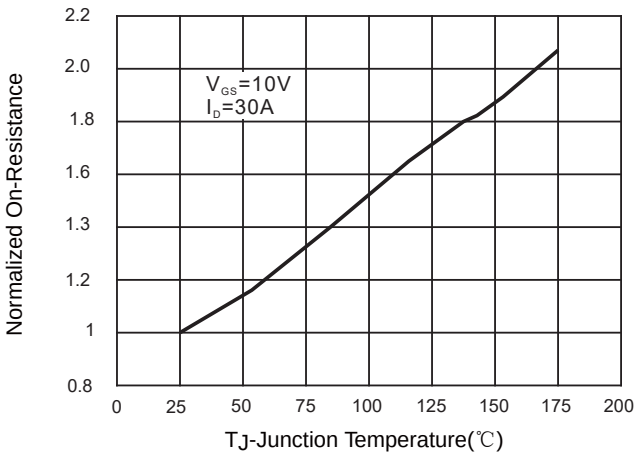


Fig. 3-Transfer Characteristics

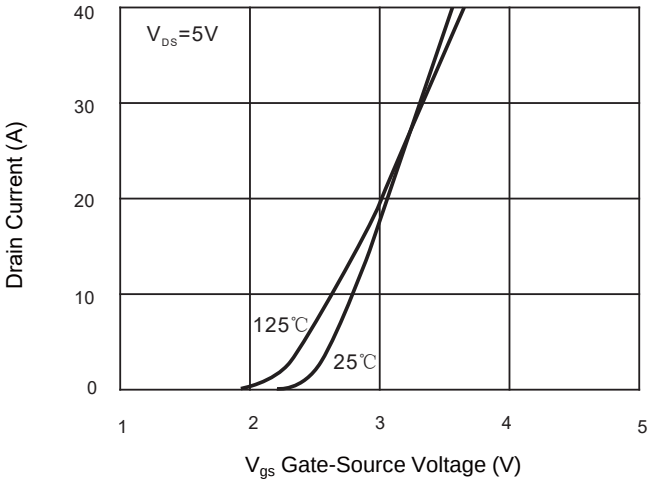


Fig. 4 - Total Gate Charge Characteristics

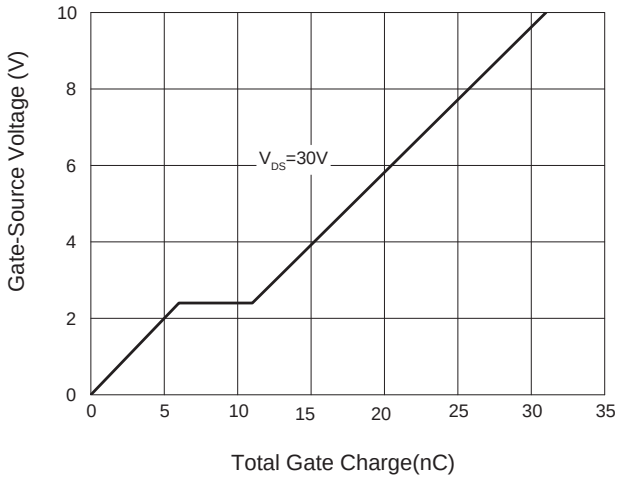


Fig. 5-Rdson- Drain Current

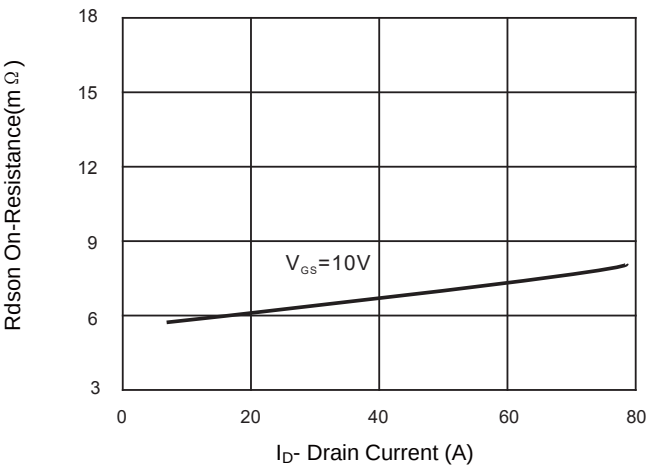
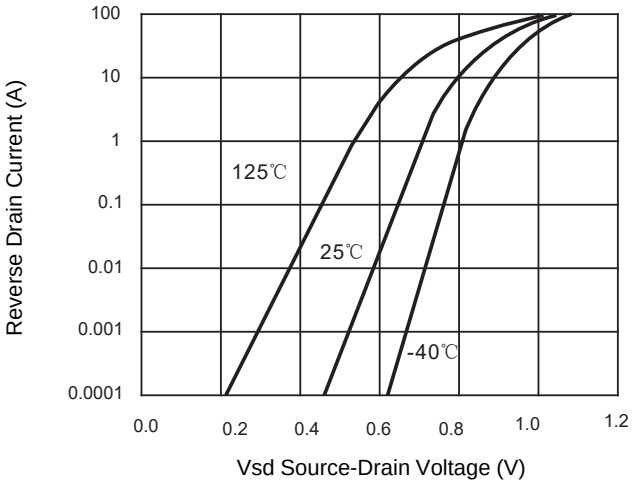


Fig. 6-Source- Drain Diode Forward



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel

Note : Adding "-HF" Suffix For Halogen Free, eg. Part Number-TP-HF

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