2A 600V N Channel MOSFET

Feactures

- VDS = 600V
- ID = 2A @VGS = 10V
- RDS(ON) (Typ)= 4.0Ω @VGS =10V

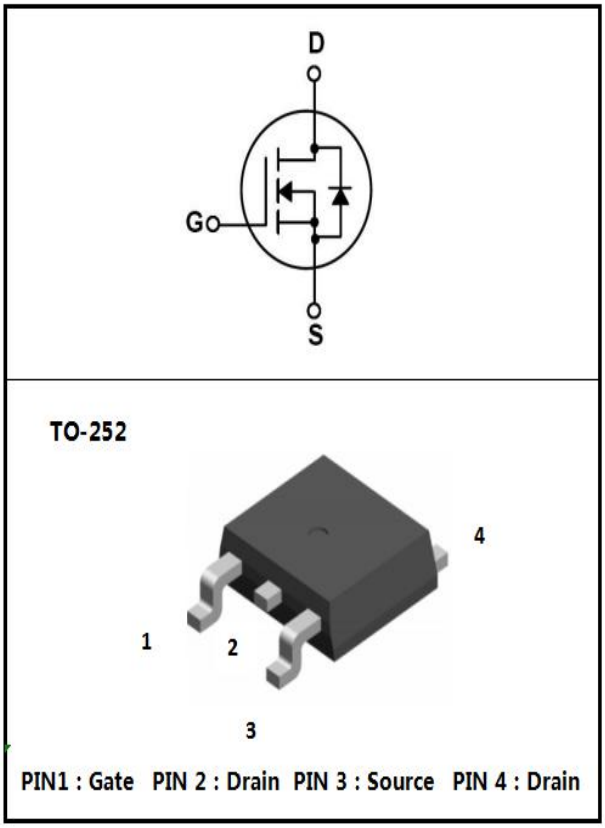
Applications

- Power Supply
- PFC
- High Current, High Speed Switching

Descriptions

These N-channel MOSFET are produced using advanced plane MOSFET Technology, which provides Low on-state resistance,high switching performance and excellent quality.

These devices are suitable device for SMPS,high Speed switching and general purpose applications.



Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	600	V
Drain Current	I_D(Tc=25℃)	2.0	A
Drain Current	I_D(Tc=100℃)	1.3	A
Drain Current - Pulsed	I_{DM}	6.0	A
Gate-Source Voltage	V_{GSS}	±30	V
Single Pulsed Avalanche Energy	E_{AS}	120	mJ
Avalanche Current	I_{AR}	2.0	A
Power Dissipation	P_D(Tc=25℃)	44	W
Operating and Storage Temperature Range	T_J,T_{STG}	-55 to 150	℃
Thermal Resistance Junction-case	R_{thJC}	2.87	℃/W
Thermal Resistance Junction-ambient	R_{thJA}	110.0	℃/W

Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V	I_D=250μA	600			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=600V	V_{GS}=0V			1.0	μA
		V_{DS}=480V	T_C=125℃			100	μA
Gate-Body Leakage Current Forward	I_{GSS}	V_{GS}=±30V	V_{DS}=0V			±0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}	I_D=250μA	2.0		4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	V_{GS}=10V	I_D=1.0A		4.0	5.0	Ω
Forward Transconductance	g_{FS}	V_{DS}=40V	I_D=1.0A		2.05		S
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V	I_S=2.0A			1.4	V

Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	V_{DS}=25V V_{GS}=0V f=1.0MHz		278		pF
Output Capacitance	C_{oss}			20		pF
Reverse Transfer Capacitance	C_{rss}			5		pF
Turn-On Delay Time	$t_{d(on)}$	V_{DD}=300V I_D=2.0A R_G=25Ω		8.0	30	ns
Turn-On Rise Time	t_r			23	60	ns
Turn-Off Delay Time	$t_{d(off)}$			25	60	ns
Turn-Off Fall Time	t_f			28	70	ns
Total Gate Charge	Qg	I_D =2.0A, V_{DS} = 480V V_{GS} = 10V		6.6		nC
Gate-to-Source Charge	Qgs			1.4		nC
Gate-to-Drain Charge	Qgd			2.0		nC
Continuous Diode Forward Current	I_S				2.0	A
Reverse Recovery Time	trr	Tj=25℃,If=2.0A di/dt=100A/μs		380		nS
Reverse Recovery Charge	Qrr			0.9		uC

Electrical Characteristic Curve

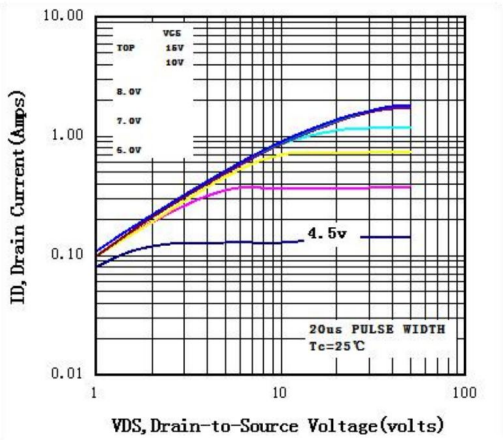


Fig1 Typical Output Characteristics, Tc=25℃

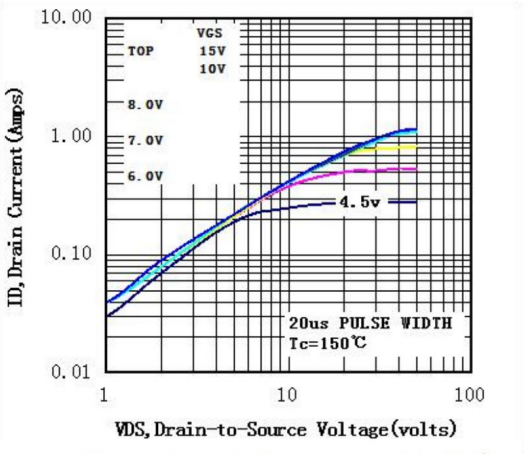


Fig2 Typical Output Characteristics, Tc=150℃

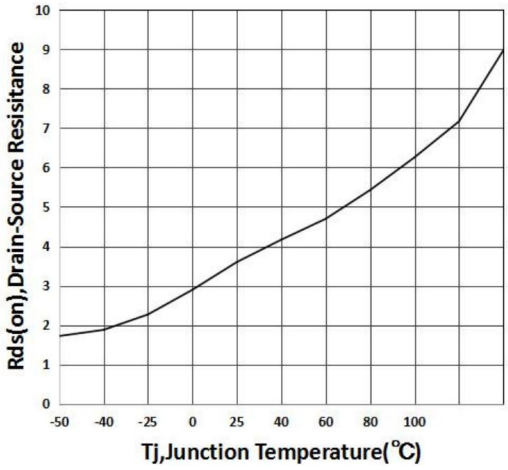


Fig3 Normalized Resistance Vs. Temperature

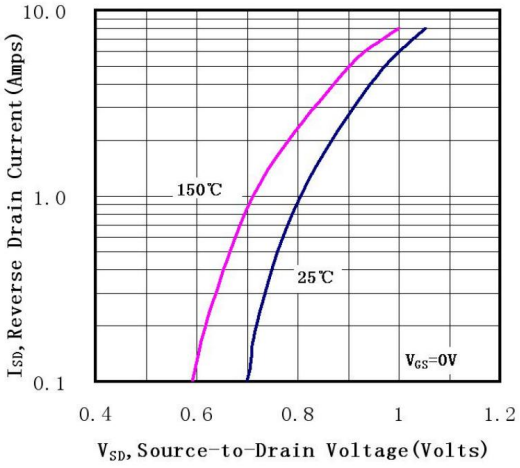


Fig4 Typical Source-Drain Diode Forward Voltage

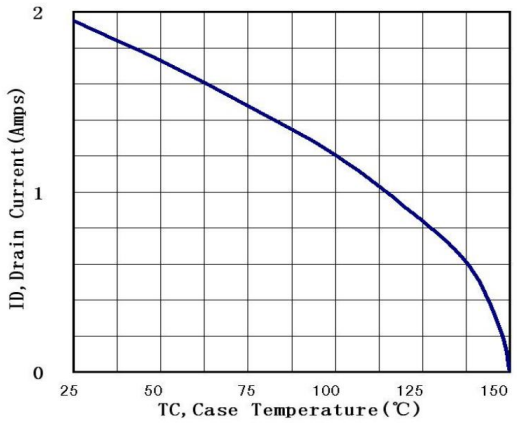


Fig5 Maximum Drain Current Vs. Case Temperature

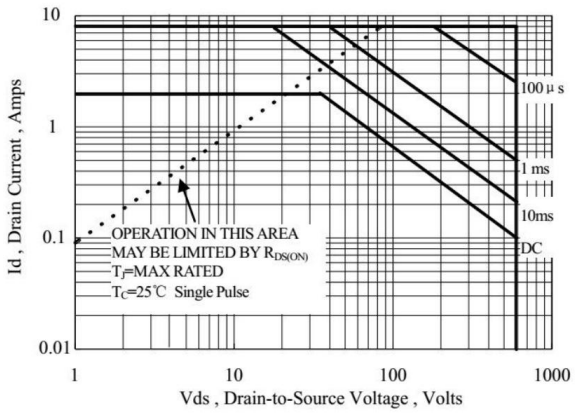
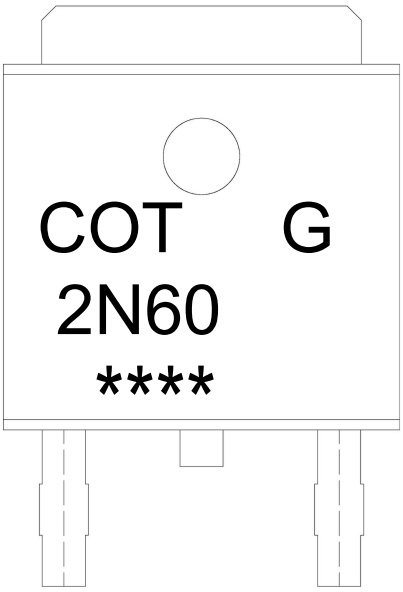


Fig6 Maximum Safe Operating Area

Marking Instructions



Note:

COT:	Company Logo
G:	Halogen Free
2N60:	Product Type.
****:	Lot No. Code, code change with Lot No.

Packaging SPEC.

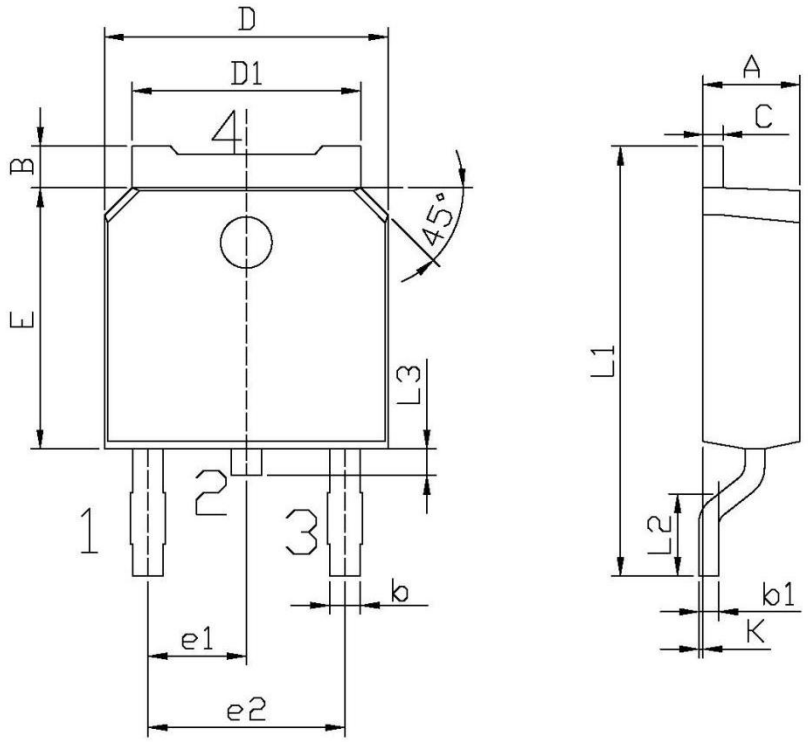
REEL INFORMATION

Package Type	Units					Dimension		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel unit: mm	Inner Box unit: mm^3	Outer Box unit: mm^3
TO-252	2,500	2	5,000	5	25,000	13″ ×16	360×360×50	385×257×392

TUBE INFORMATION

Package Type	Units					Dimension		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube unit: mm^3	Inner Box unit: mm^3	Outer Box unit: mm^3
TO-252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

Package Outline Dimensions



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.70	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.85	10.35
C	0.45	0.55	L2	1.70	2.00
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252