

## Features

- $V_{DS}$  (V) = 60V
- $I_D$  = 35A
- $R_{DS(ON)} < 23m\Omega$  ( $V_{GS} = 10V$ )
- $R_{DS(ON)} < 33m\Omega$  ( $V_{GS} = 4.5V$ )
- $R_{DS(ON)} < 37m\Omega$  ( $V_{GS} = 4V$ )

## Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	60	V
Gate-Source Voltage	$V_{GS}$	+20	
Continuous Drain Current	$I_D$	35	A
Pulsed Drain Current (Note.1)	$I_{DP}$	105	
Avalanche Current (Note.2)	$I_{AV}$	18	
Avalanche Energy (Single Pulse) (Note.3)	EAS	19	mJ
Power Dissipation $T_c=25^\circ C$	$P_D$	40	W
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55 to 150	

Note.1 :PW ≤ 10 us, duty cycle ≤ 1%

Note.2 :L≤100μH, Single pulse

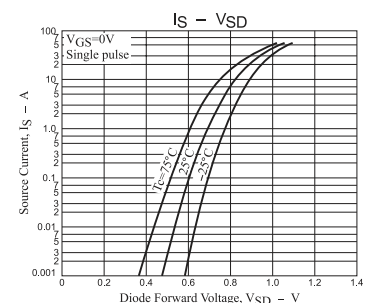
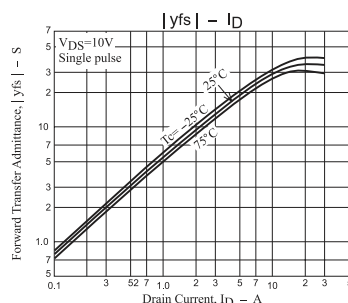
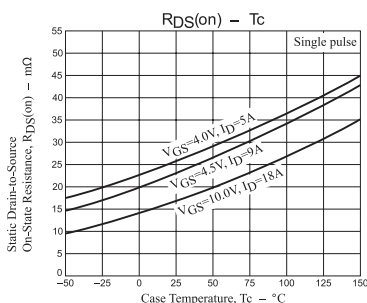
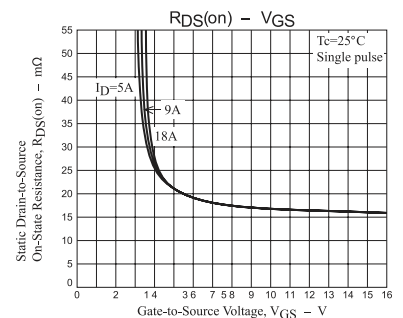
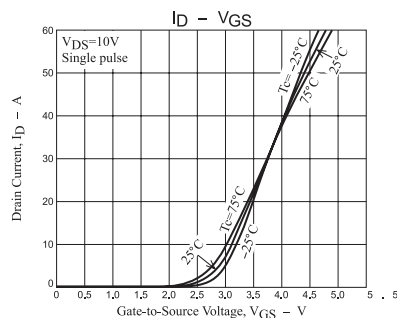
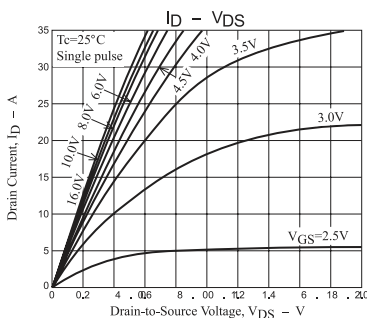
Note.3 :V<sub>DD</sub>=10V, L=100μH, I<sub>AV</sub>=18A

## Electrical Characteristics ( $T_A = 25^\circ C$ )

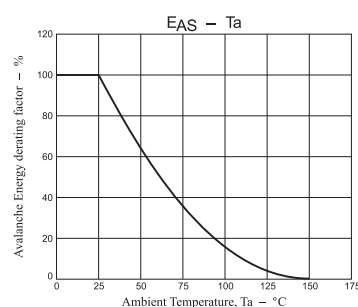
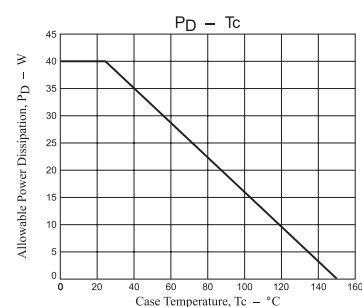
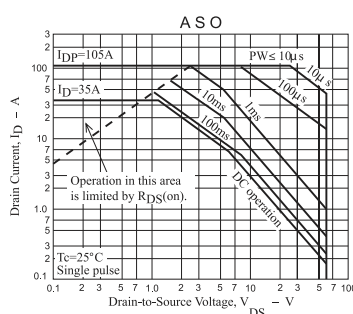
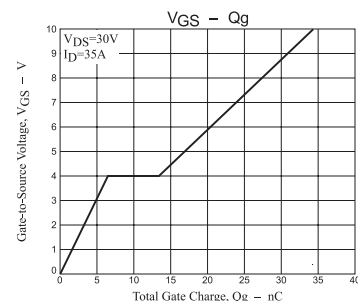
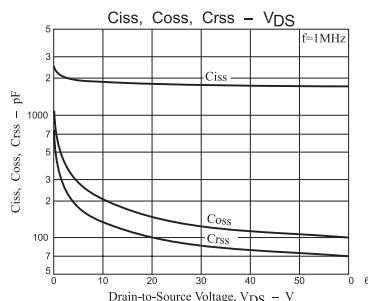
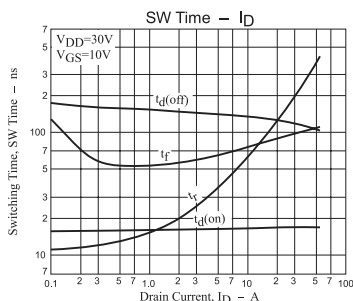
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{DSS}$	$I_D=10mA, V_{GS}=0V$	60			V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-60V, V_{GS}=0V$			1	μA
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 16V$			±100	nA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10V, I_D=-1mA$	1.2		2.6	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS}=10V, I_D=-18A$		35		S
Static Drain-Source On-Resistance	$R_{DS(on)}^1$	$V_{GS}=10V, I_D=-18A$		17	23	mΩ
	$R_{DS(on)}^2$	$V_{GS}=10V, I_D=-9A$		23	33	
	$R_{DS(on)}^3$	$V_{GS}=10V, I_D=-5A$		25	57	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	$C_{iss}$	$V_{GS}=0V, V_{DS}=20V, f=1MHz$		1820		pF
Output Capacitance	$C_{oss}$			150		
Reverse Transfer Capacitance	$C_{rss}$			100		
Total Gate Charge	$Q_g$	$V_{GS}=-10V, V_{DS}=30V, I_D=35A$		34.5		nC
Gate Source Charge	$Q_{gs}$			6.5		
Gate Drain Charge	$Q_{gd}$			6.8		
Turn-On DelayTime	$t_{d(on)}$	See specified Test Circuit		16		nS
Turn-On Rise Time	$t_r$			110		
Turn-Off DelayTime	$t_{d(off)}$			125		
Turn-Off Fall Time	$t_f$			87		
Maximum Body-Diode Continuous Current	$I_S$	$I_{SD}=-12A, V_{GS}=0V$			3.5	A
Diode Forward Voltage	$V_{SD}$	$I_S=1.5A, V_{GS}=0V$		0.96	1.2	V

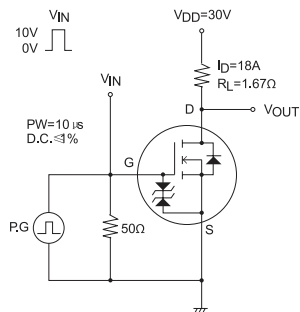
## Typical Characteristics



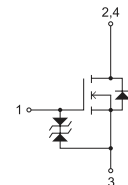
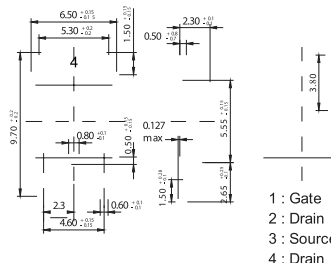
## Typical Characteristics



## Switching Time Test Circuit



## Diagram



## Part Number Table

Description	Part Number
N Channel MOSFET, 35A, 60V	2KK6024

Dimensions : Millimetres

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