N Channel MOSFET

multicomp PRO

RoHS Compliant

Features

- V_{DS} (V) = 60V
- ID = 35A
- $R_{DS(ON)}$ < 23mΩ (V_{GS} = 10V)
- $R_{DS(ON)}$ < 33mΩ (V_{GS} = 4.5V)
- $R_{DS(ON)}$ < 37mΩ (V_{GS} = 4V)

Absolute Maximum Ratings Ta = 25°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)	E_{AS}	19	mJ
Power Dissipation T_C=25°C	P_D	40	W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{stg}	-55 to 150	

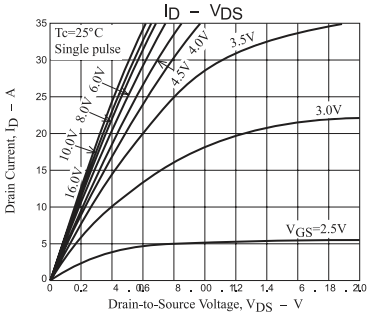
Note.1 :PW ≤ 10 us, duty cycle ≤ 1%
Note.2 :L≤100μH, Single pulse
Note.3 :V_{DD}=10V, L=100μH, I_{AV}=18A

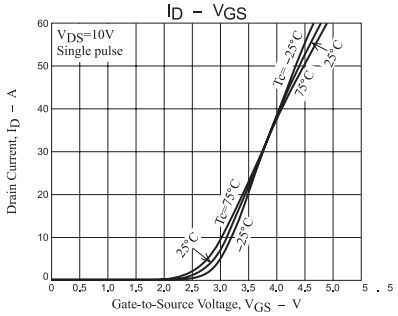
Electrical Characteristics (T_A = 25°C

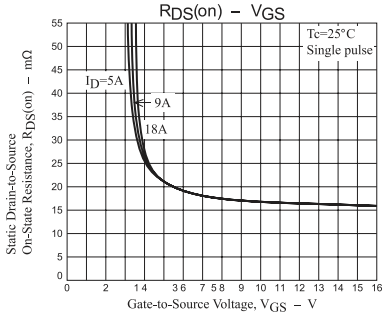
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{DSS}	I_D=10mA, V_{GS}=0V	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=-60V, V_{GS}=0V			1	μA
Gate-Body Leakage Current	I_{GSS}	V_{DS}=0V, V_{GS}=±16V			±100	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V I_D=-1mA	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	

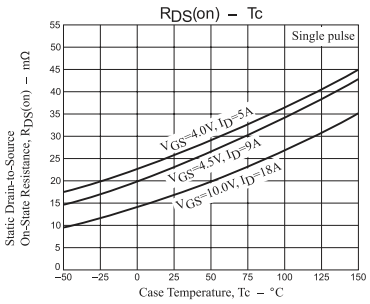
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Input Capacitance	C_{iss}	V_{GS}=0V, V_{DS}=20V, f=1MHz		1820		pF
Output Capacitance	C_{oss}			150		
Reverse Transfer Capacitance	C_{RSS}			100		
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=30V, I_D=35A		34.5		nC
Gate Source Charge	Q_{gs}			6.5		
Gate Drain 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

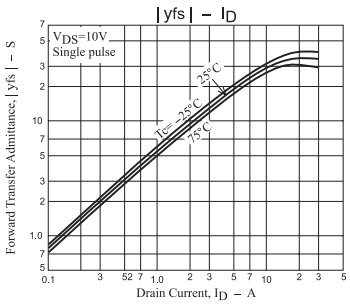
Typical Characterisitics

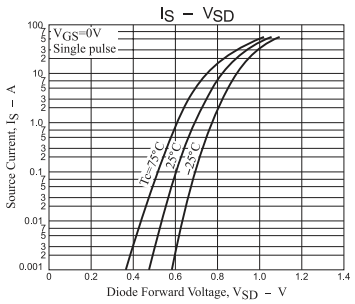












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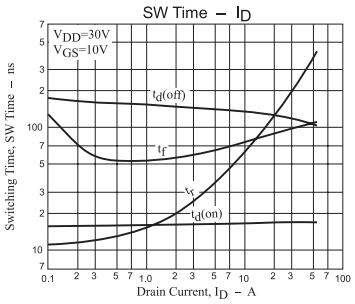
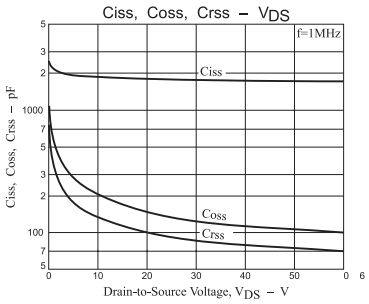
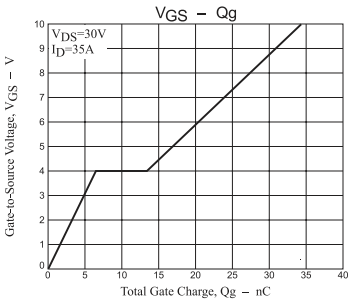
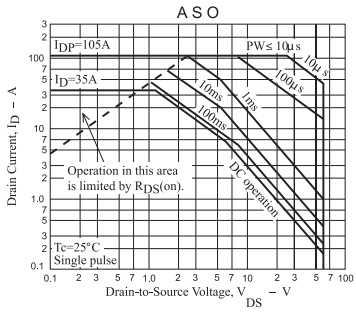
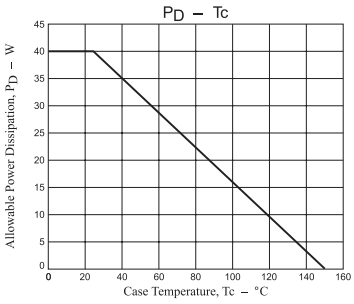
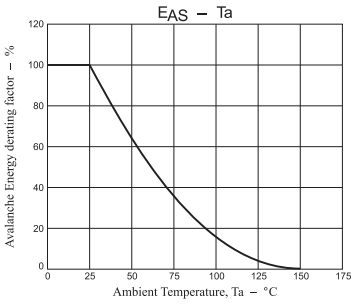




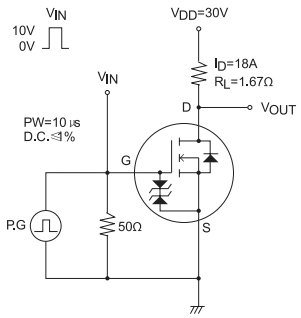




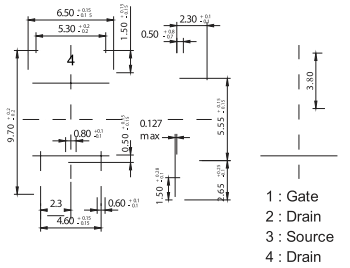


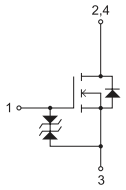


Switching Time Test Circuit



Diagram





Part Number Table

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

Dimensions : Millimetres