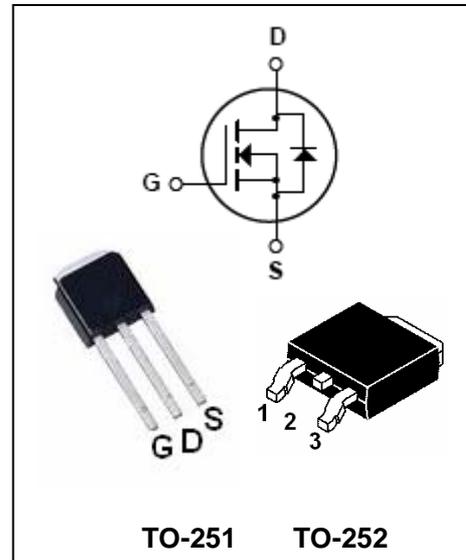


2A, 700 Volts N-CHANNEL POWER MOSFET

2N70

FEATURES

- $R_{DS(on)}=5.0\Omega@V_{GS}=10V$.
- Low gate charge
- Low C_{rss}
- Fast switching capability
- Avalanche energy specified
- Improved dv/dt capability, high ruggedness



MAXIMUM RATING operating temperature range applies unless otherwise specified

Symbol	Parameter	Value	Units
V_{DSS}	Drain-Source voltage	700	V
I_D	Drain current continuous	2.0	A
I_{DM}	Drain current Pulsed (Note2)	8.0	A
V_{GSS}	Gate -Source voltage	± 30	V
I_{AR}	Avalanche Current (Note2)	2.0	A
E_{AS}	Avalanche Energy	80	mJ
dv/dt	Peak Diode Recovery dv/dt (Note3)	4.5	V/ns
P_D	Power Dissipation	35	W
T_J	Junction Temperature	+150	$^{\circ}C$
$T_{OPR} T_{STG}$	Operating and Storage Temperature	-55 ~ +150	$^{\circ}C$
θ_{JA}	Thermal Resistance Junction-Ambient	50	$^{\circ}C/W$
θ_{Jc}	Thermal Resistance Junction-Case	2.87	$^{\circ}C/W$

Note:1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

2. Repetitive Rating: Pulse width limited by maximum junction temperature

3. $I_{SD} \leq 2.4A$, $di/dt \leq 200A/\mu s$, $V_{DD} \leq BV_{DSS}$, Starting $T_J = 25^{\circ}C$



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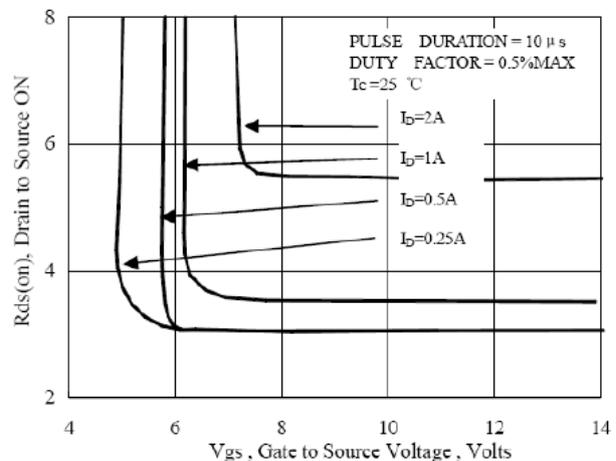
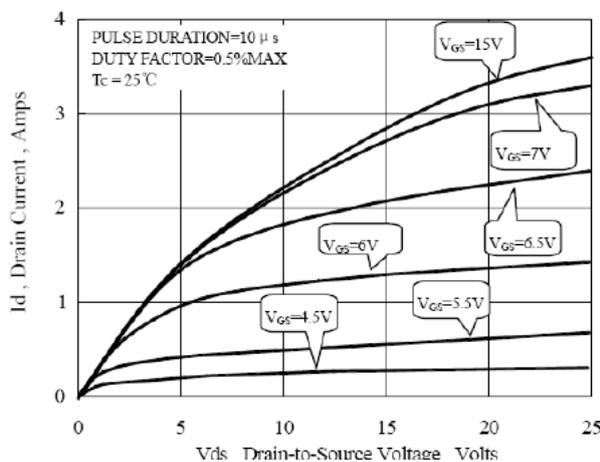
ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS						
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V, I_D=250\mu A$	700	-	-	V
Breakdown Voltage Temperature Coefficient	$\Delta BV_{DSS} / \Delta T_J$	$I_D=250\mu A$	-	0.4	-	V/°C
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V$	-	-	1	μA
Gate-body Leakage	Forward Reverse I_{GSS}	$V_{DS}=0V, V_{GS}=30V$ $V_{DS}=0V, V_{GS}=-30V$	- -	- -	100 -100	nA
ON CHARACTERISTICS						
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2.0	-	4.0	
Static drain-Source on-resistance	$R_{DS(ON)}$	$V_{GS}=10V, I_D=1A,$	-	5.0	6.5	Ω
DYNAMIC CHARACTERISTICS						
Input Capacitance	C_{iss}	$V_{DS}=25V, V_{GS}=0V, f=1.0MHz$	-	280		pF
Output Capacitance	C_{oss}		-	30		pF
Reverse Transfer Capacitance	C_{rss}		-	4.5		pF
DRAIN-SOURCE DIODE CHARACTERISTICS						
Maximum Continuous Drain-Source Diode Forward Current	I_{SD}		-	-	2.0	A
Maximum Pulsed Drain-Source Diode Forward Current	I_{SM}		-	-	8.0	A
Drain-Source Recovery Charge	V_{SD}	$V_{GS}=0V, I_{SD}=2.0A$	-	-	1.5	V

Notes:

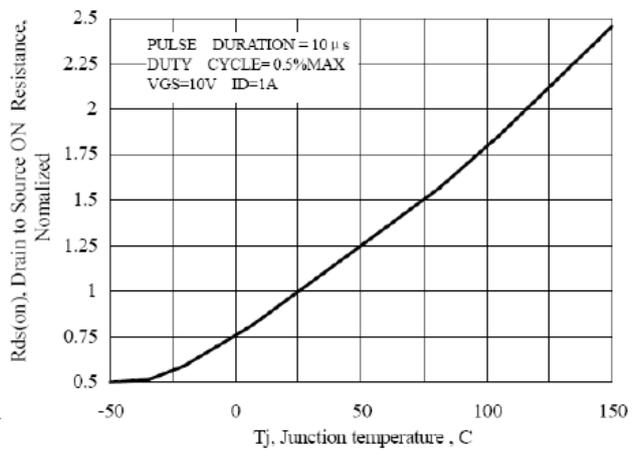
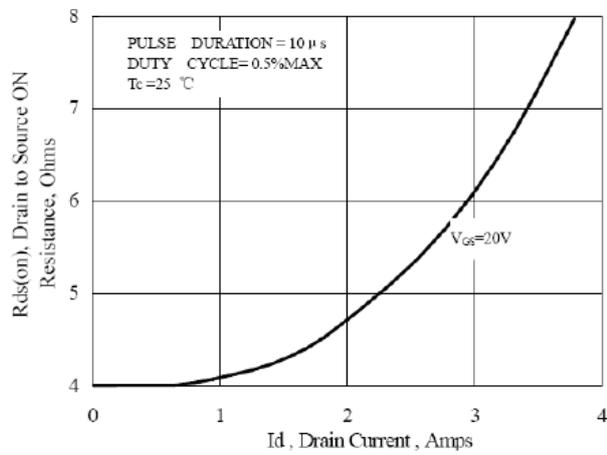
1. Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$
2. Essentially Independent of Operating Temperature

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified



2A, 700 Volts N-CHANNEL POWER MOSFET

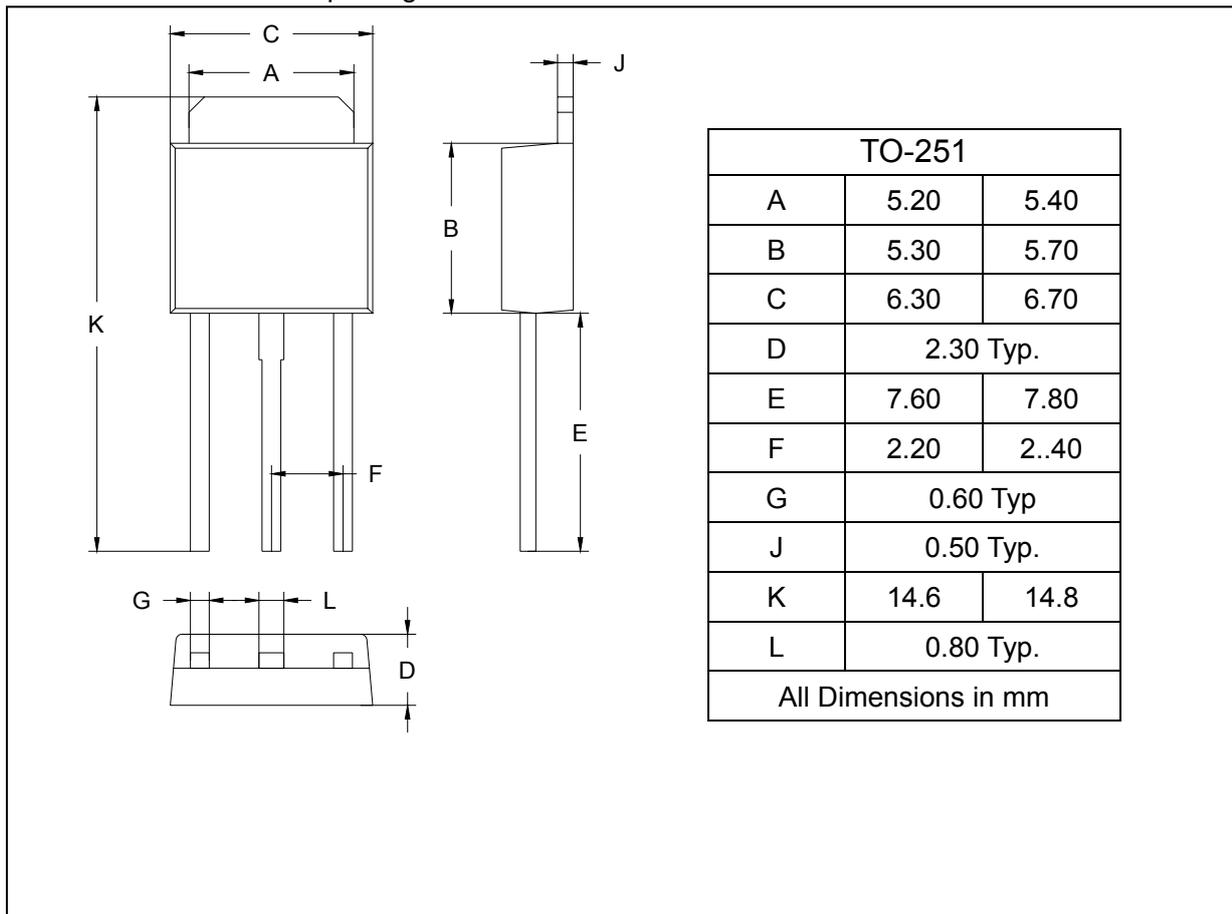
2N70



PACKAGE OUTLINE

Plastic surface mounted package

TO-251



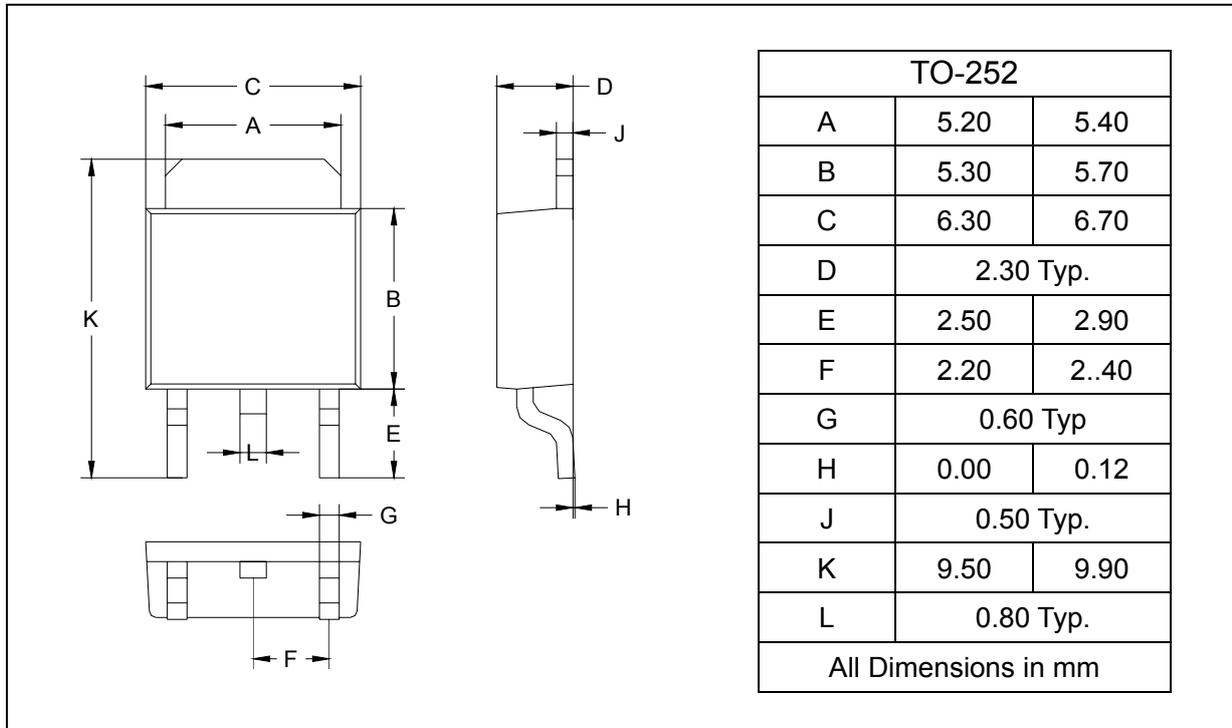
2A, 700 Volts N-CHANNEL POWER MOSFET

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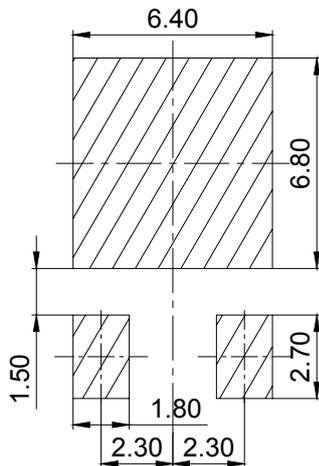
PACKAGE OUTLINE

Plastic surface mounted package

TO-252



SOLDERING FOOTPRINT



Unit:mm

PACKAGE INFORMATION

Device	Package	Shipping
2N70	TO-251/252	80PCS/Tube
	TO-252	2500PCS/Tape&Reel