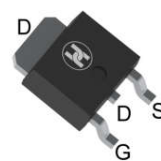
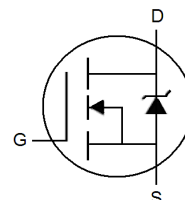


N-CHANNEL Power MOSFET

FEATURES

- V_{DS} :600V, I_D : 2A Max.
- $R_{DS(ON)}$:5.65 Ω (max.)@ V_{GS} =10V, I_D =1A
- High density cell design for ultra low on-resistance
- Fully characterized avalanche voltage and current


TO-252

EQUIVALENT CIRCUIT

MECHANICAL DATA

- Case: TO-252
- Case material: Molded Plastic. UL flammability 94V-0
- Weight:0.33grams(approximate)
- Marking:D2N60

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	600	V
Gate-source voltage	V_{GS}	± 30	V
Continuous drain current, $V_{GS}=10\text{V}$	I_D	2	A
Pulsed drain current (Note 1)	I_{DM}	8	A
Power dissipation	P_D	34	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	100	$^{\circ}\text{C/W}$
Operating junction and storage temperature	T_J, T_{STG}	-55~+150	$^{\circ}\text{C}$
Single Pulsed Avalanche Energy (note 1)	E_{AS}	115	mJ
Lead Temperature for Soldering Purposes (1/8" from case for 10s)	T_L	260	$^{\circ}\text{C}$

Note: 1. E_{AS} condition: $V_{DD}=20\text{V}$, $L=0.5\text{mH}$, $R_G=25\Omega$, Starting $T_J = 25^{\circ}\text{C}$

N-CHANNEL Power MOSFET
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

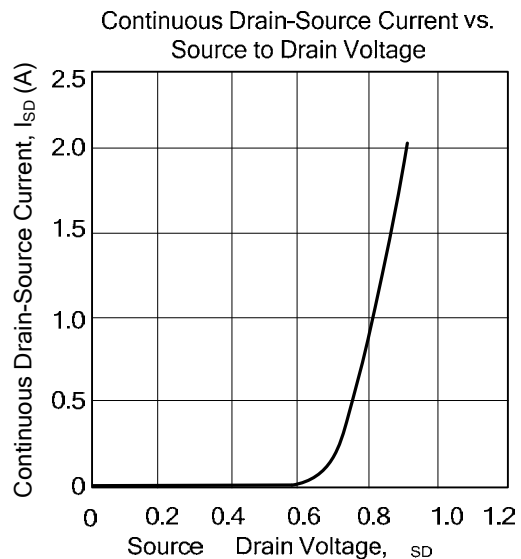
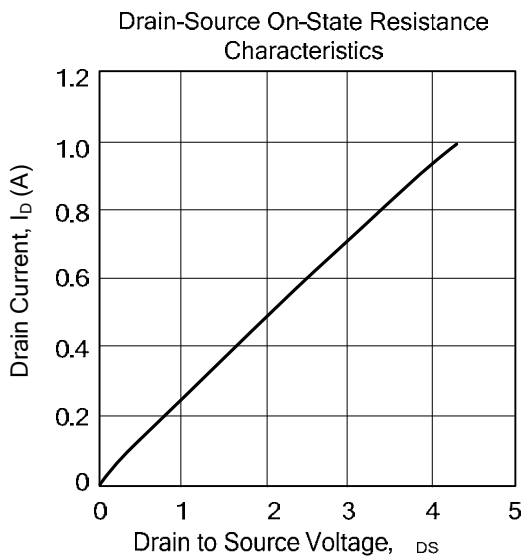
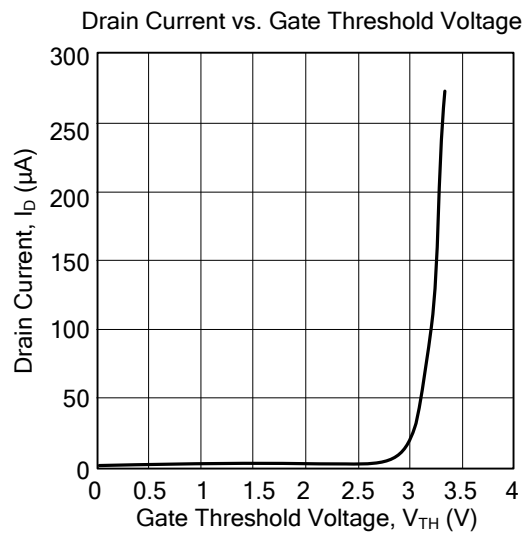
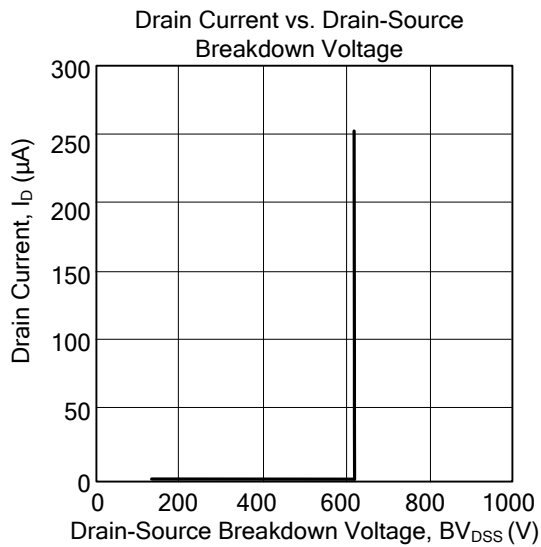
PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
OFF CHARACTERISTICS							
Drain-Source Breakdown Voltage		BV _{DSS}	V _{GS} = 0V, I _D = 250μA	600			V
Drain-Source Leakage Current		I _{DSS}	V _{DS} = 600V, V _{GS} = 0V			1	μA
Gate-Source Leakage Current	Forward	I _{GSS}	V _{GS} = 30V, V _{DS} = 0V			100	nA
	Reverse		V _{GS} = -30V, V _{DS} = 0V			-100	nA
ON CHARACTERISTICS							
Gate Threshold Voltage		V _{GS(TH)}	V _{DS} = V _{GS} , I _D = 250μA	2.0		4.0	V
Static Drain-Source On-State Resistance		R _{DS(ON)}	V _{GS} = 10V, I _D =1A		4.52	5.65	Ω
DYNAMIC CHARACTERISTICS							
Input Capacitance		C _{ISS}	V _{DS} = 25V, V _{GS} = 0V, f = 1MHz		300	-	pF
Output Capacitance		C _{OSS}			45	-	pF
Reverse Transfer Capacitance		C _{RSS}			2	-	pF
SWITCHING CHARACTERISTICS							
Turn-On Delay Time		t _{D(ON)}	V _{DD} =300V, I _D =2A, R _G =25Ω (Note 1, 2)		10	-	ns
Turn-On Rise Time		t _R			25	-	ns
Turn-Off Delay Time		t _{D(OFF)}			20	-	ns
Turn-Off Fall Time		t _F			25	-	ns
Total Gate Charge		Q _G	V _{DS} = 480V,I _D = 2.4A, V _{GS} = 10V (Note 1, 2)		5.7	-	nC
Gate-Source Charge		Q _{GS}			1.8	-	nC
Gate-Drain Charge		Q _{GD}			2	-	nC
SOURCE- DRAIN DIODE RATINGS AND CHARACTERISTICS							
Drain-Source Diode Forward Voltage		V _{SD}	V _{GS} = 0 V, I _{SD} = 2.0 A			1.4	V
Maximum Continuous Drain-Source Diode Forward Current		I _S				2.0	A
Maximum Pulsed Drain-Source Diode Forward Current		I _{SM}				8.0	A
Reverse Recovery Time		t _{rr}	V _{GS} = 0 V, I _S = 2A,		357		ns
Reverse Recovery Charge		Q _{RR}	dI _F /dt = 100 A/μs (Note 1)		2		μC

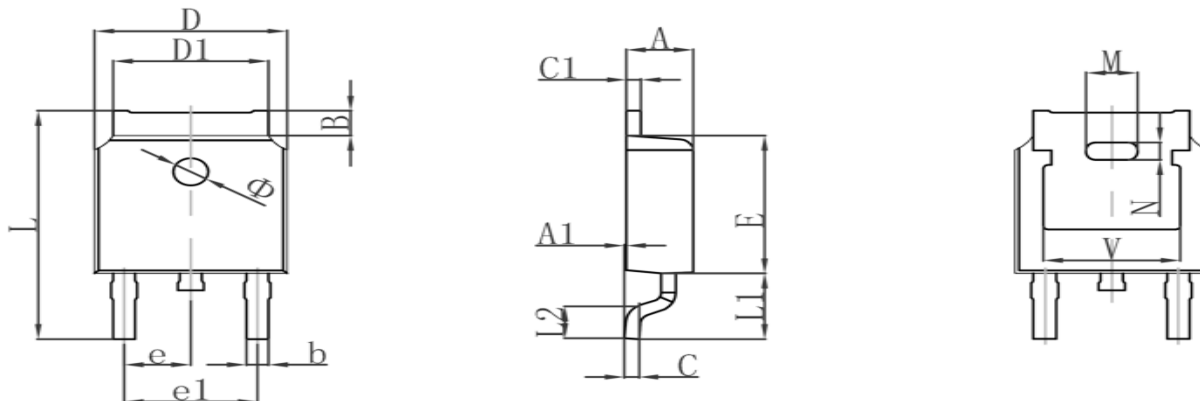
Notes: 1. Pulse Test: Pulse width ≤ 300μs, Duty cycle ≤ 2%

2. Essentially independent of operating temperature

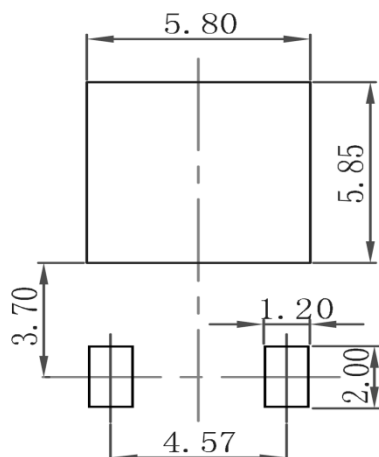
N-CHANNEL Power MOSFET

TYPICAL CHARACTERISTICS



N-CHANNEL Power MOSFET
TO-252 PACKAGE OUTLINE DIMENSIONS


Symbol	DimensionsIn Millimeters		DimensionsIn Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286TYP		0.090TYP	
e1	4.327	4.727	0.170	0.186
M	1.778REF		0.070REF	
N	0.762REF		0.018REF	
L	9.800	10.400	0.386	0.409
L1	2.9REF		0.114REF	
L2	1.400	1.700	0.055	0.067
V	4.830REF		0.190REF	
Φ	1.100	1.300	0.043	0.051

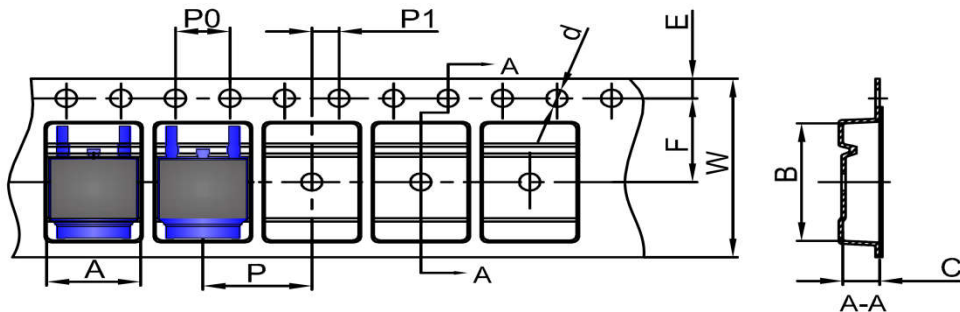
TO-252 SUGGESTED PAD LAYOUT

Note:

1. Controlling dimension: in millimeters
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

N-CHANNEL Power MOSFET

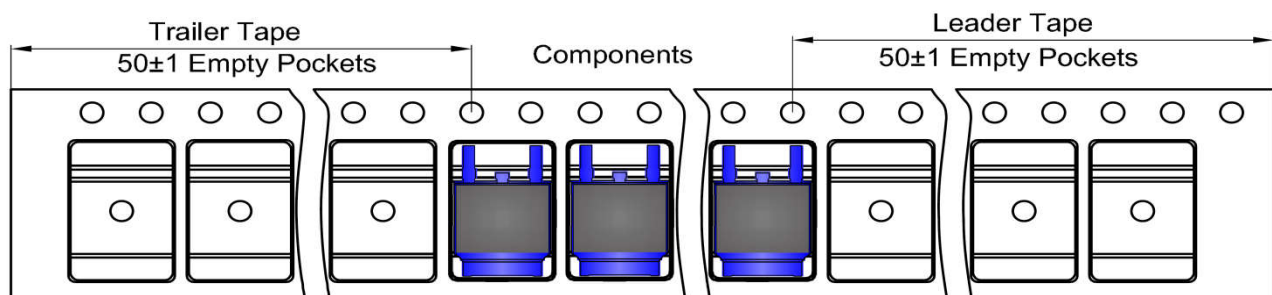
TO-252 TAPE AND REEL

TO-252 Embossed Carrier Tape

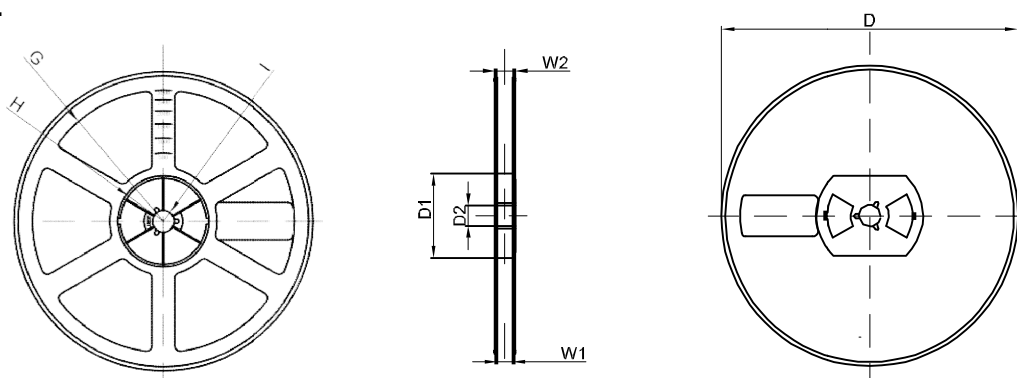


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

TO-252 Tape Leader and Trailer



TO-252 REEL



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330.00	100.00	Φ21.00	R151.00	R56.00	R6.50	16.40	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1