



Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-40V	13mΩ@-10V	-40A

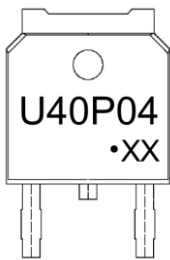
Feature

- High density cell design for ultra low $R_{DS(ON)}$
- Excellent package for good heat dissipation

Application

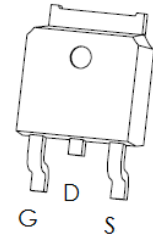
- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible Power Supply

MARKING:

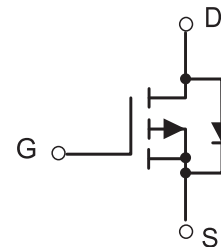


U40P04 = Device Code
•XX = Date Code

TO-252



Schematic diagram



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

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-40	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-40	A
Pulsed Drain Current	I_{DM}	-160	A
Single Pulsed Avalanche Energy ⁽¹⁾	E_{AS}	544	mJ
Power Dissipation	P_D	1.25	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	100	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55~ +150	$^{\circ}C$

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

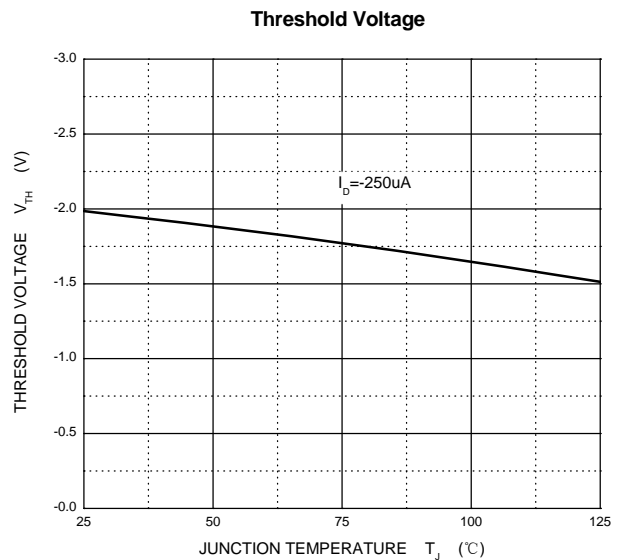
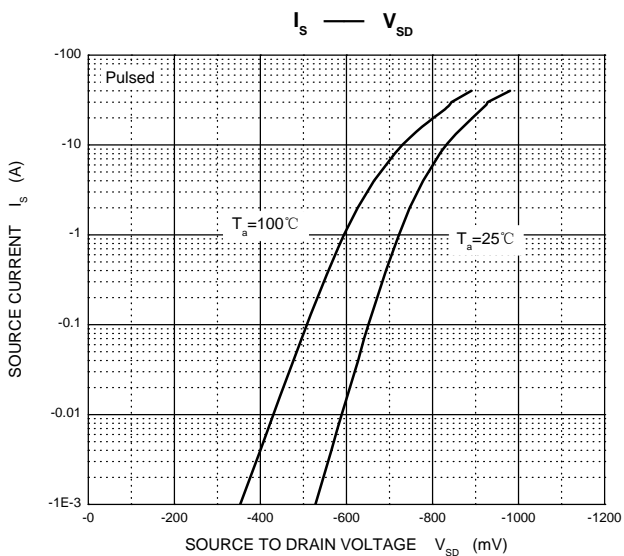
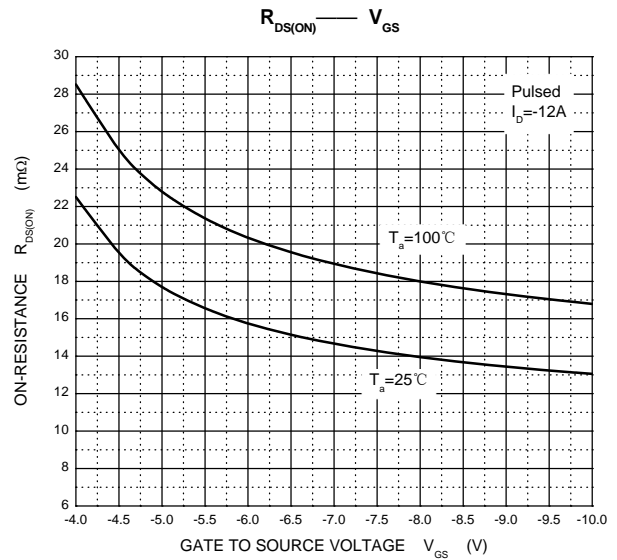
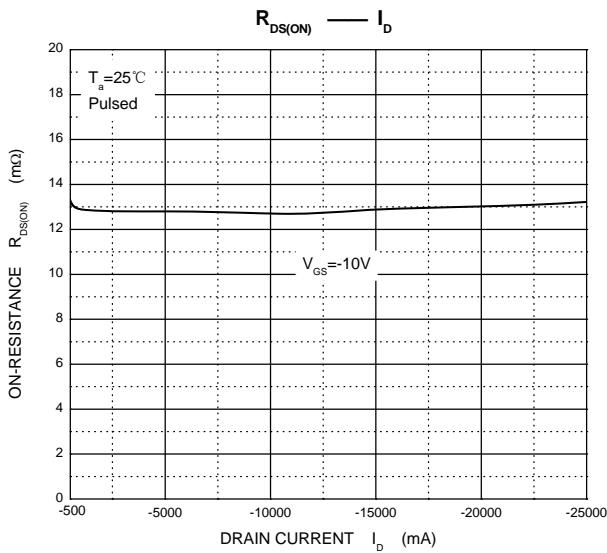
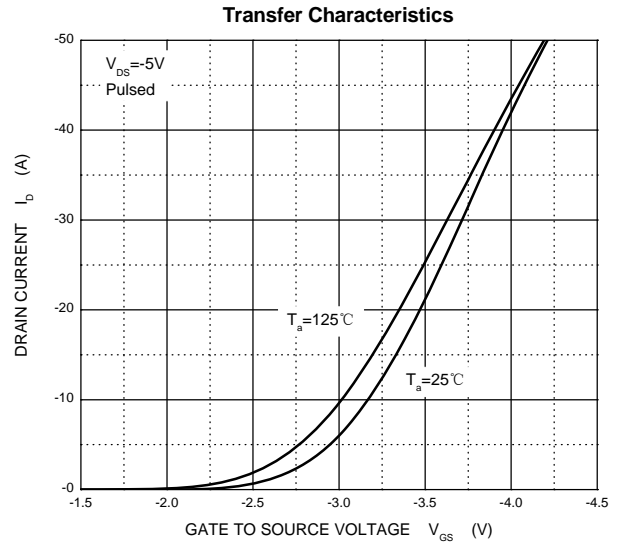
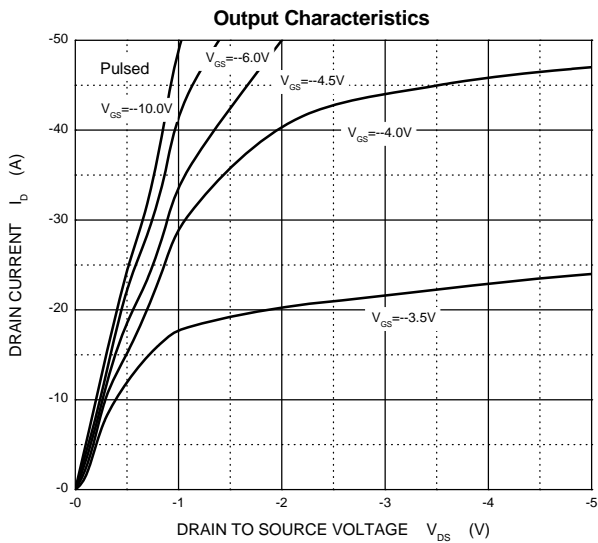
MOSFET ELECTRICAL CHARACTERISTICS($T_c=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Off Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-40			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = -40V, V_{GS} = 0V$			-1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
On Characteristics¹						
Gate threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-1	-2	-3	V
Drain-source on-resistance	$R_{DS(on)}$	$V_{GS} = -10V, I_D = -12A$		13	17	m Ω
Forward transconductance	g_{FS}	$V_{DS} = -5V, I_D = -12A$	34			S
Dynamic characteristics²						
Input Capacitance	C_{iss}	$V_{DS} = -20V, V_{GS} = 0V, f = 1MHz$		3100		pF
Output Capacitance	C_{oss}			380		
Reverse Transfer Capacitance	C_{rss}			290		
Switching Characteristics²						
Total Gate Charge	Q_g	$V_{DS} = -20V, V_{GS} = -10V, I_D = -12A$		73		nC
Gate-Source Charge	Q_{gs}			18		
Gate-Drain Charge	Q_{gd}			14		
Turn-on delay time	$t_{d(on)}$	$V_{DD} = -20V, I_D = -20A$ $V_{GS} = -10V, R_G = 3\Omega,$		11		ns
Turn-on rise time	t_r			19		
Turn-off delay time	$t_{d(off)}$			40		
Turn-off fall time	t_f			26		
Diode Characteristics						
Diode Forward Voltage	V_{SD}	$V_{GS} = 0V, I_S = -10A$			-1.2	V

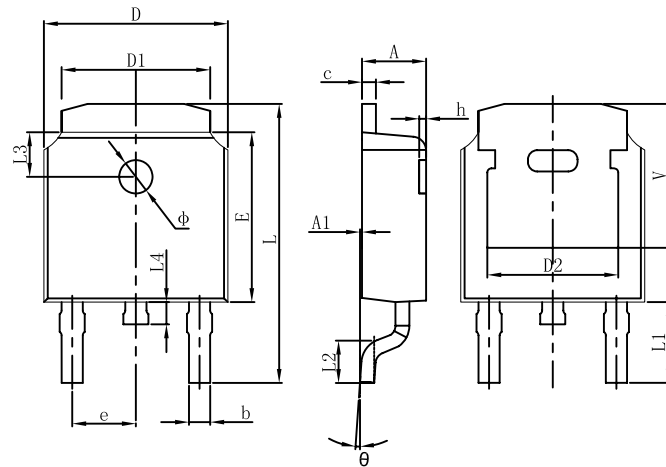
Note :

1. Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
2. Guaranteed by design, not subject to production.

Typical Characteristics



TO-252 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)