

Product Summary

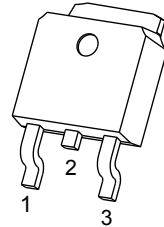
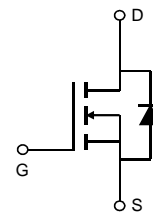
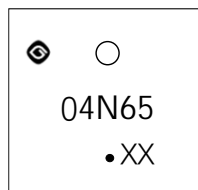
$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
650V	2.2Ω@10V	4A

Feature

- Low $R_{DS(on)}$
- Low FOM
- Extremely low switching loss
- Good stability and uniformity

Application

- Consumer electronics power supply
- LED Lighting
- Standby Power
- Charger

TO-252-2L

Schematic diagram

MARKING:


04N65 = Device Code

XX = Date Code

Solid Dot = Green Indicator

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

Parameter	Symbol	Value	Unit
Drain - Source Voltage	V_{DS}	650	V
Gate - Source Voltage	V_{GS}	±30	V
Continuous Drain Current ^{1,6}	I_D	4	A
Pulsed Drain Current ²	I_{DM}	16	A
Single Pulsed Avalanche Current ³	I_{AS}	4.1	A
Single Pulsed Avalanche Energy ³	E_{AS}	252.1	mJ
Power Dissipation ^{5,6}	P_D	89	W
Thermal Resistance from Junction to Case ⁶	$R_{\theta JC}$	1.4	$^\circ\text{C/W}$
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55~ +150	$^\circ\text{C}$

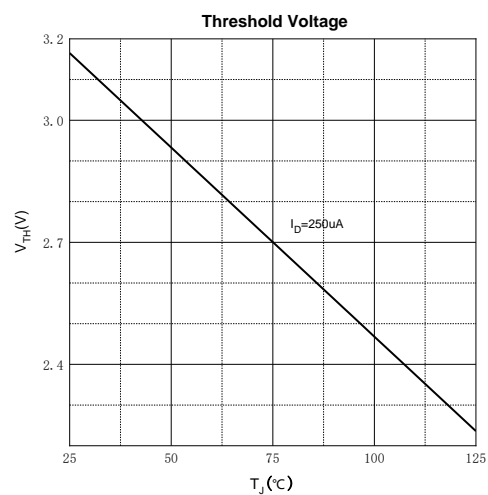
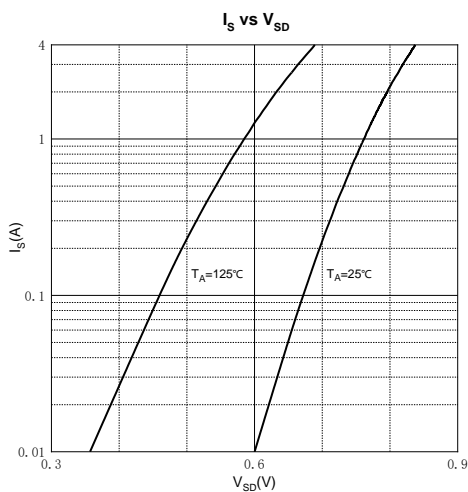
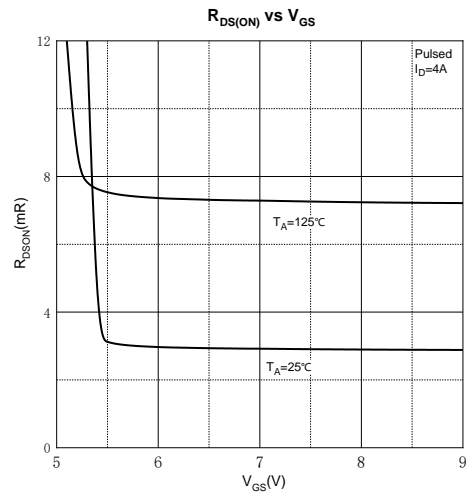
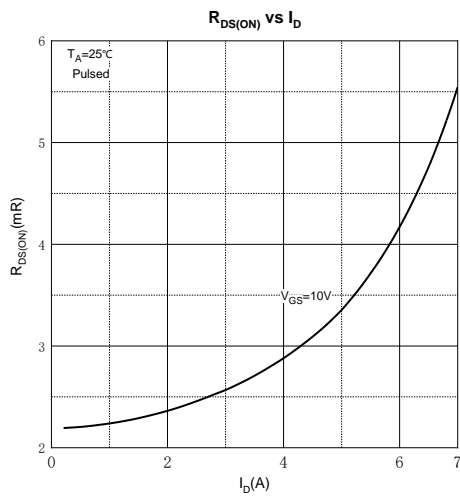
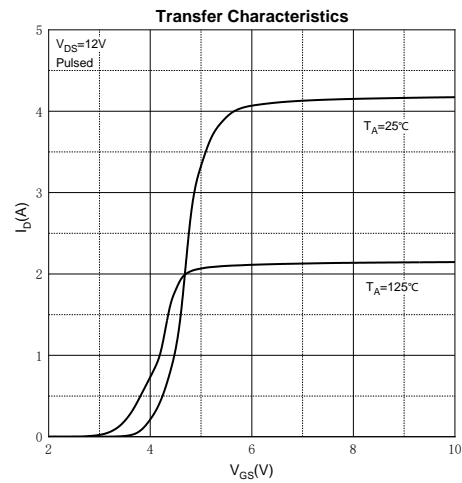
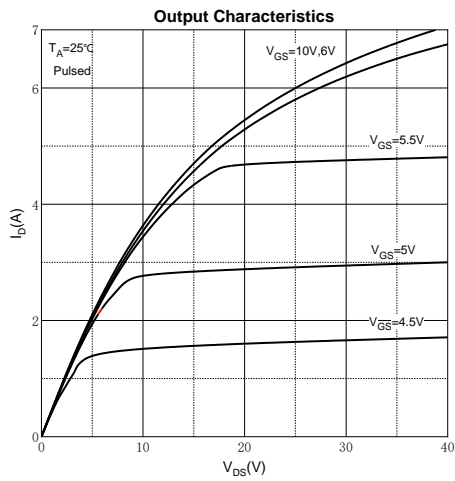
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	650			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 650V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 30V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ^(note1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	2.0	3.0	4.0	V
Drain-source on-resistance ^(note1)	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 2A$		2.1	2.4	Ω
Forward transconductance ^(note1)	g_{fs}	$V_{DS} = 50V, I_D = 1A$	1			S
Dynamic characteristics^(note2)						
Input Capacitance	C_{iss}	$V_{DS} = 25V, V_{GS} = 0V, f = 1MHz$			565	pF
Output Capacitance	C_{oss}				135	pF
Reverse Transfer Capacitance	C_{rss}				15	pF
Total Gate Charge	Q_g	$I_D = 4A, V_{DS} = 480V, V_{GS} = 10V$		4	8	nC
Gate-Source Charge	Q_{gs}			2		nC
Gate-Drain Charge	Q_{gd}			1.5		nC
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 10V, V_{DS} = 300V, R_G = 9.1\Omega, I_D = 4A$			15	ns
Turn-on rise time	t_r				8	ns
Turn-off delay time	$t_{d(off)}$				30	ns
Turn-off fall time	t_f				15	ns
Source-Drain Diode characteristics						
Diode Forward voltage ^(note1)	V_{SD}	$V_{GS} = 0V, I_S = 2A$			1.5	V

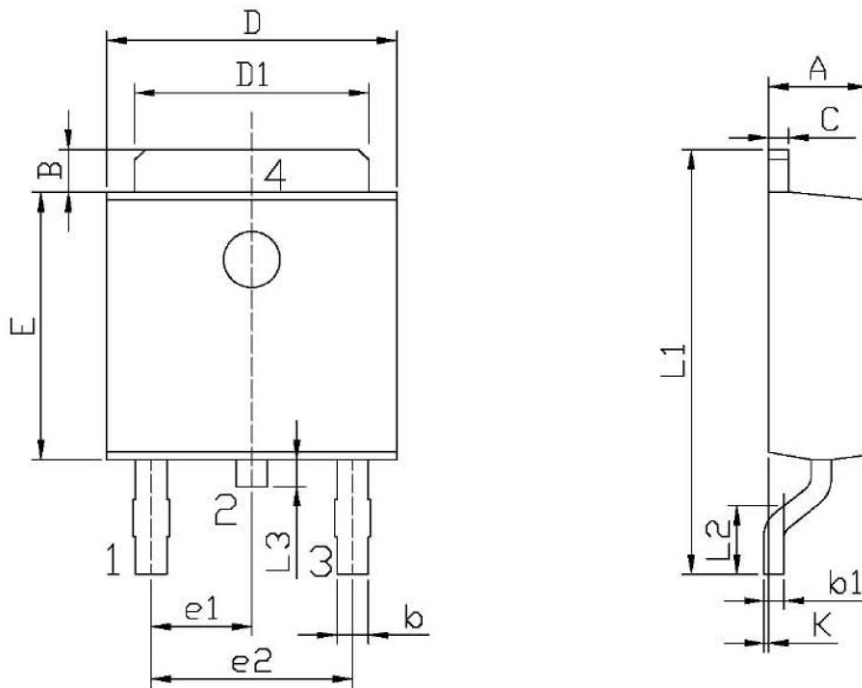
Notes :

- 1.The maximum current rating is limited by package.
- 2.Pulse Test : Pulse Width $\leq 10\mu s$, duty cycle $\leq 1\%$.
- 3.EAS condition: $V_{DD} = 100V, V_{GS} = 10V, L = 30mH, R_G = 25\Omega$ Starting $T_J = 25^{\circ}\text{C}$.
- 4.Pulse Test : Pulse Width $\leq 300\mu s$, duty cycle $\leq 2\%$.
- 5.The power dissipation P_D is limited by $T_{J(MAX)} = 150^{\circ}\text{C}$.
- 6.Device mounted on $1in^2$ FR-4 board with 2oz. Copper, in a still air environment with $T_A = 25^{\circ}\text{C}$.

Typical Characteristics



TO-252-2L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
B	0.950	1.250	0.037	0.049
b	0.500	0.700	0.020	0.028
b1	0.450	0.550	0.018	0.022
C	0.450	0.550	0.018	0.022
D	6.450	6.750	0.254	0.266
D1	5.100	5.500	0.201	0.217
E	5.950	6.250	0.234	0.246
e1	2.240	2.340	0.088	0.092
e2	4.430	4.730	0.174	0.186
L1	9.450	9.950	0.372	0.392
L2	1.250	1.750	0.049	0.069
L3	0.600	0.900	0.024	0.035
K	0.000	0.100	0.000	0.004

单击下面可查看定价，库存，交付和生命周期等信息

[>>GP\(格瑞宝\)](#)