Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-100V	35mΩ@-10V	-30A
	45mΩ@-4.5V	

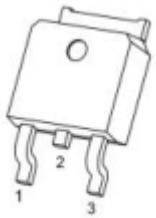
Feature

- V_{DS} -100V
- I_D -30A
- $R_{DS(ON)}$(at V_{GS}=10V) < 50 mohm
- Fast Switching

Application

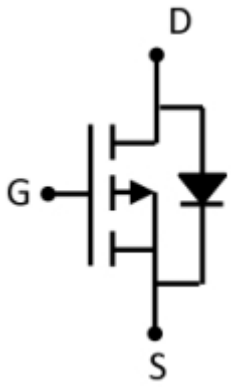
- Motor control
- Switching Regulators
- Isolated DC/DC convertor
- Alertor

Package



TO-252(1:G 2:D 3:S)

Circuit diagram



Marking

010P35G =Device Code

** =Week Code

Absolute maximum ratings

(T_a=25℃ unless otherwise noted)

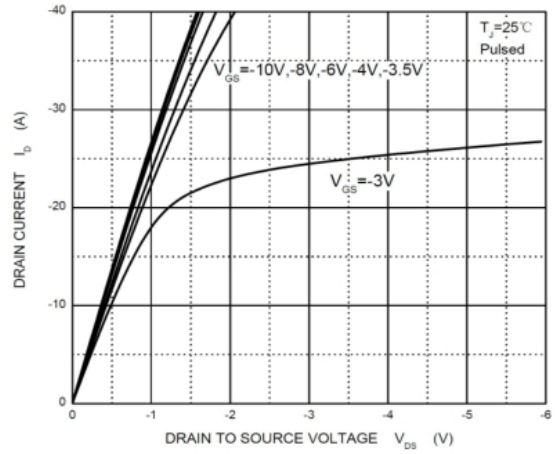
Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	±20	V
Drain Current-Continuous	I_D	-30	W
Drain Current – Pulsed [1]	I_{DM}	-120	A
Power Dissipation (T_C=25℃)	P_D	120	W
Thermal Resistance Junction to Case	$R_{\theta JC}$	1.04	℃/ W
Storage Temperature Range	T_{STG}	-55~ +150	℃
Operating Junction Temperature Range	$T_{J,}$	-55~ +150	℃

Electrical characteristics

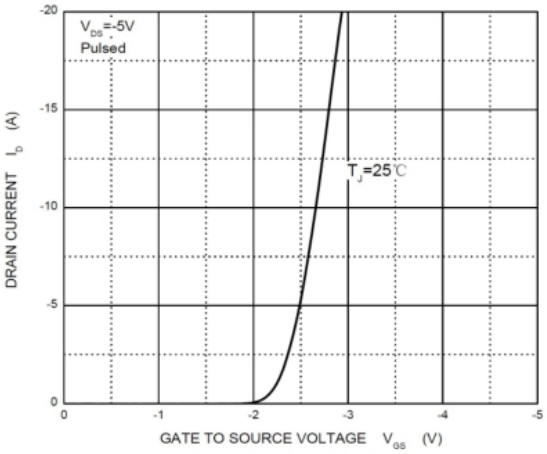
(T_A=25℃, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	BV_{DSS}	V_{GS} = 0V, I_D =-250μA	-100			V
Drain-Source Leakage Current	I_{DSS}	V_{DS} =-100V,V_{GS} = 0V			-1	uA
Gate-Source Leakage Current	I_{GSS}	V_{GS} =±20V , V_{DS}=0V			±100	uA
Gate threshold voltage	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-1	-1.6	-2.5	V
Static Drain-Source on-Resistance	$R_{DS(on)}$	V_{GS} =-10V, I_D =-15A		35	50	mΩ
		V_{GS} =-4.5V, I_D =-10A		45	65	
Dynamic characteristics[4]						
Total Gate Charge	Q_g	V_{GS}=-10V, V_{DS}=-20V, I_D=-12A		96		nC
Gate-Source Charge	Q_{gs}			15		
Gate-Drain Charge	Q_{gd}			13		
Turn-On Delay Time	$T_{d(on)}$	V_{GS}=-10V, V_{DD}=-20V, I_D=-20A, R_{GEN}=3Ω		11		nS
Rise Time	T_r			17		
Turn-Off Delay Time	$T_{d(off)}$			37		
Fall Time	T_f			22		
Input Capacitance	C_{iss}	V_{DS}=-20V,V_{GS}=0V, f=1MHz		6300		pF
Output Capacitance	C_{oss}			220		
Reverse Transfer Capacitance	C_{rss}			55		
Drain-Source Diode Characteristics						
Continuous Source Current	I_S	V_G=V_D=0V , Force Current			-30	A
Diode forward voltage	V_{SD}	V_{GS}=0V, I_S=-1A			-1.2	V

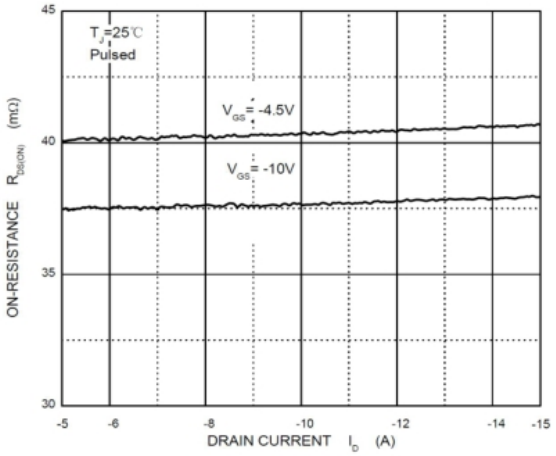
Typical Characteristics



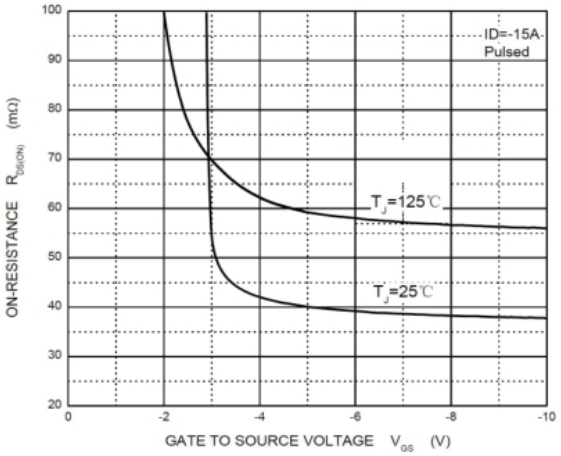
Output Characteristics



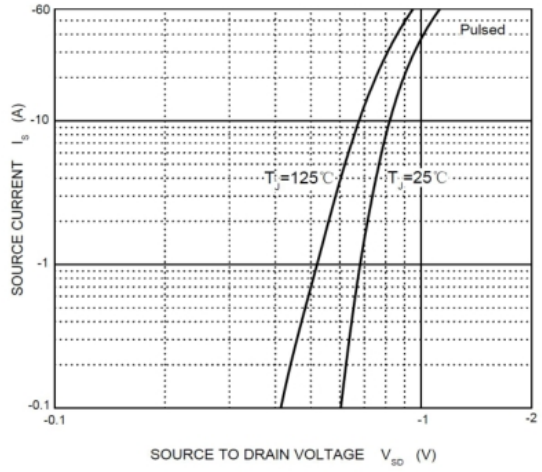
Transfer Characteristics



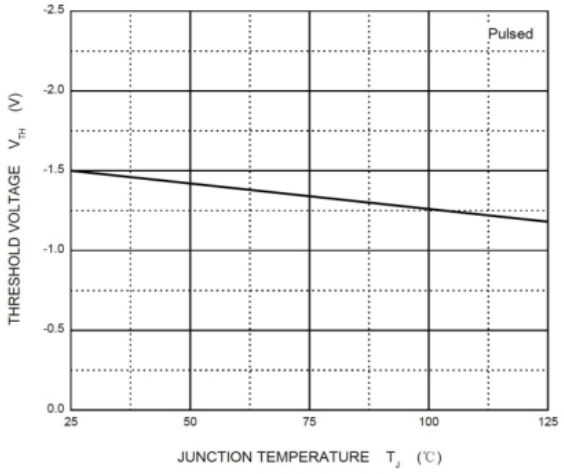
$R_{DS(ON)}$ - I_D



$R_{DS(ON)}$ - V_{GS}

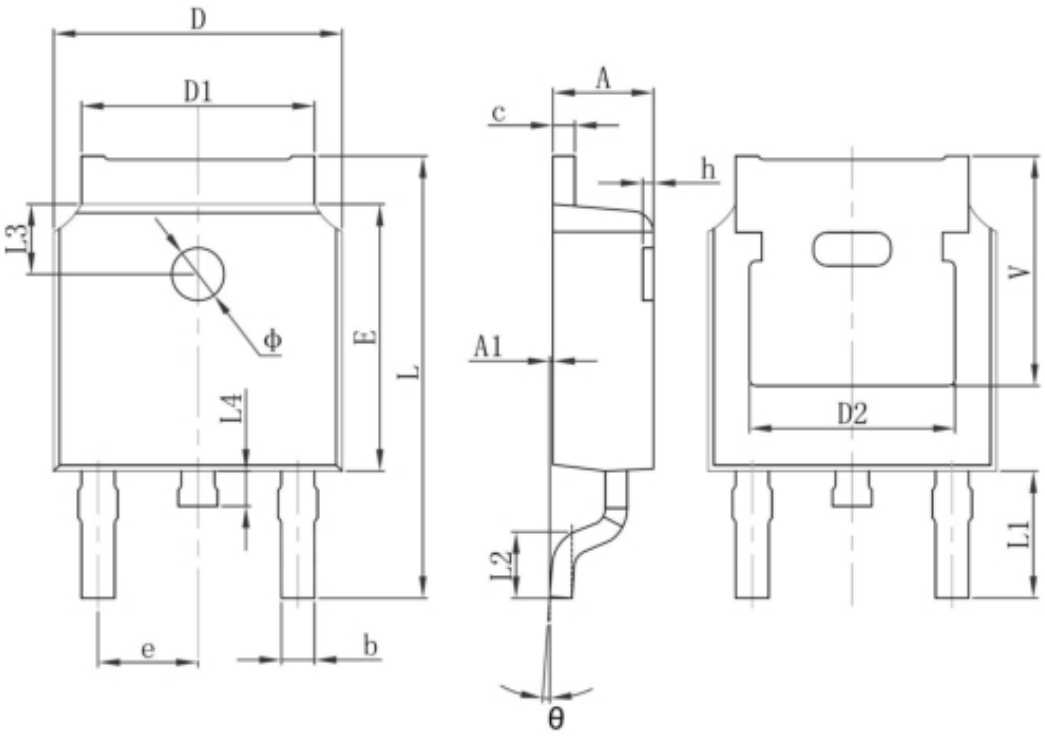


I_S - V_{SD}



Threshold Voltage

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	0.660	0.860	0.026	0.034
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	9.800	10.400	0.386	0.409
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	5.350 REF.		0.211 REF.	