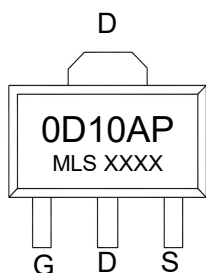


Features

- Green Device Available
- Super Low Gate Charge
- Excellent CdV/dt effect decline
- Advanced high cell density Trench technology

Application

- Battery protection
- Load switch
- Power management

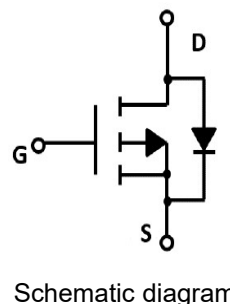


0D10AP : Device code
XXXX : Code

Marking and pin assignment

Product Summary

V_{DS}	$R_{DS(ON)}$ MAX	I_D MAX
-30V	30mΩ@-10V	-10A
	40mΩ@-4.5V	



Halogen-Free

Absolute Maximum Ratings (TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Unit
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Common Ratings (TC=25°C Unless Otherwise Noted)

V _{DS}	Drain-Source Breakdown Voltage		-30	V
V _{GS}	Gate-Source Voltage		±20	V
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-50 to 155	°C
I _S	Diode Continuous Forward Current	Tc=25°C	-10	A

Mounted on Large Heat Sink

I_{DM}	Pulse Drain Current Tested	Tc=25°C	-36	A
I_D	Continuous Drain Current	Tc=25°C	-10	A
P_D	Maximum Power Dissipation	Tc=25°C	2.3	W
$R_{\theta JA}$	Thermal Resistance Junction-Ambient		45	°C/W

Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
MZ0D10AP	SOT-89-3L	0D10AP	1,000	10,000	40,000	7"reel

Electrical Characteristics (TJ=25°C unless otherwise noted)						
Symbol	Parameter	Condition	Min	Typ	Max	Unit
Static Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
BV(BR)DSS	Drain-Source Breakdown Voltage	VGS=0V, ID=-250μA	-30	--	--	V
IDSS	Zero Gate Voltage Drain Current	VDS=-30V, VGS=0V	--	--	-1	μA
IGSS	Gate-Body Leakage Current	VGS=±20V, VDS=0V	--	--	±100	nA
VGS(th)	Gate Threshold Voltage	VDS=VGS, ID=-250μA	-0.8	--	-2	V
RDS(on)	Drain-Source On-State Resistance	VGS=-10V, ID=-10A	--	20	30	mΩ
		VGS=-4.5V, ID=-5A	--	27	40	mΩ
Dynamic Electrical Characteristics @ TJ = 25°C (unless otherwise stated)						
Ciss	Input Capacitance	VDS=-15V, VGS=0V, f=1MHz	--	1200	--	pF
Coss	Output Capacitance		--	155	--	pF
CRSS	Reverse Transfer Capacitance		--	140	--	pF
Qg	Total Gate Charge	VDS=-15V, ID=-10A, VGS=-10V	--	52	--	nC
Qgs	Gate Source Charge		--	10	--	nC
Qgd	Gate Drain Charge		--	8.5	--	nC
Switching Characteristics						
td(on)	Turn-on Delay Time	VDS=-15V, ID=-1A, VGS=-10V, RG=6Ω	--	13	--	nS
tr	Turn-on Rise Time		--	15	--	nS
td(off)	Turn-Off Delay Time		--	200	--	nS
tf	Turn-Off Fall Time		--	100	--	nS
Source- Drain Diode Characteristics						
VSD	Forward on voltage	TJ=25°C, IS=-10A	--	--	-1.2	V

Typical Operating Characteristics

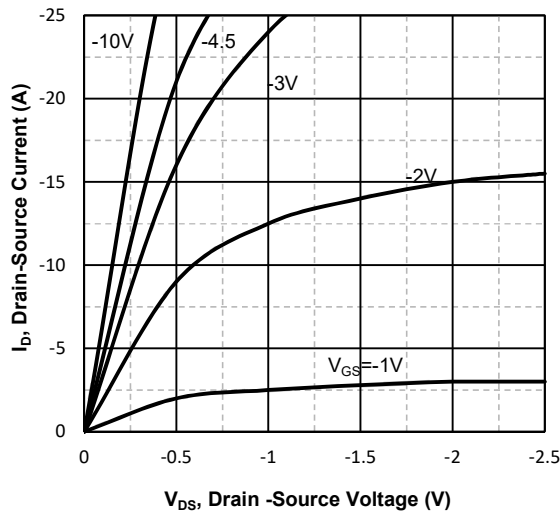


Fig1. Typical Output Characteristics

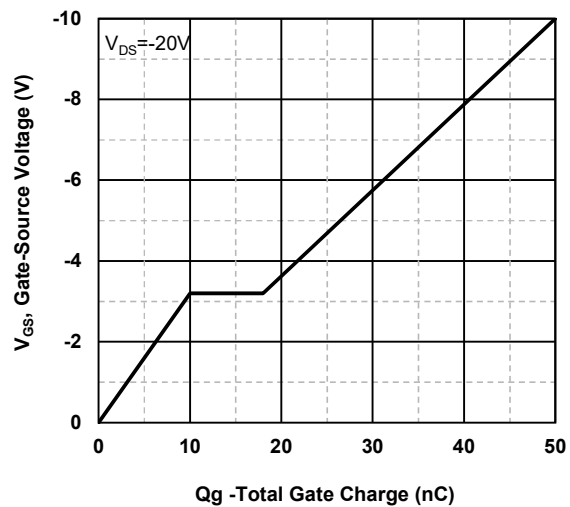


Fig2. Typical Gate Charge Vs. Gate-Source Voltage

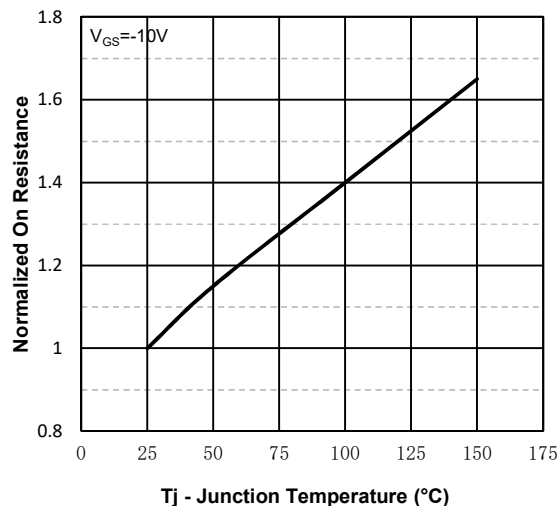


Fig3. Normalized On-Resistance Vs. Temperature

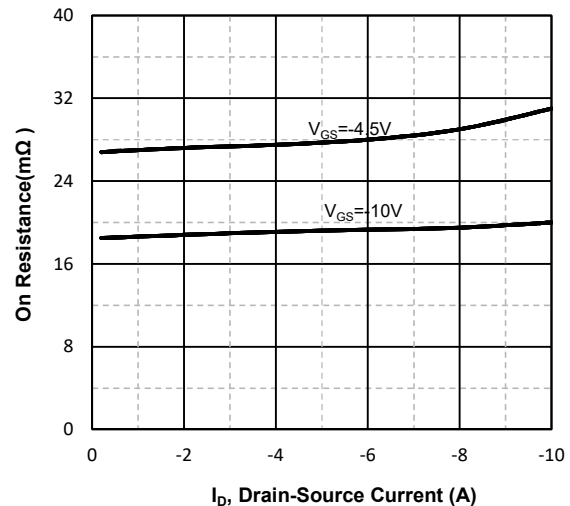


Fig4. On-Resistance Vs. Drain-Source Current

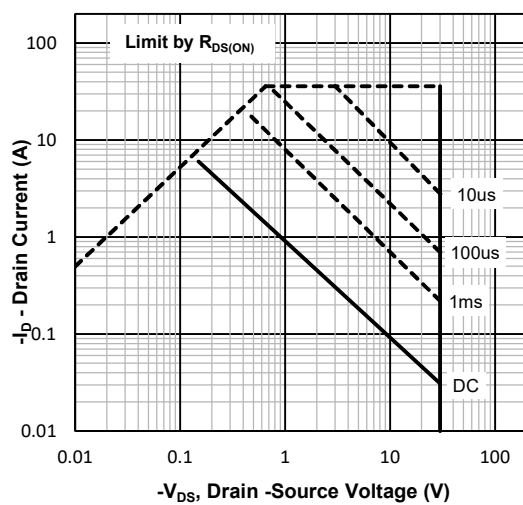


Fig5. Maximum Safe Operating Area

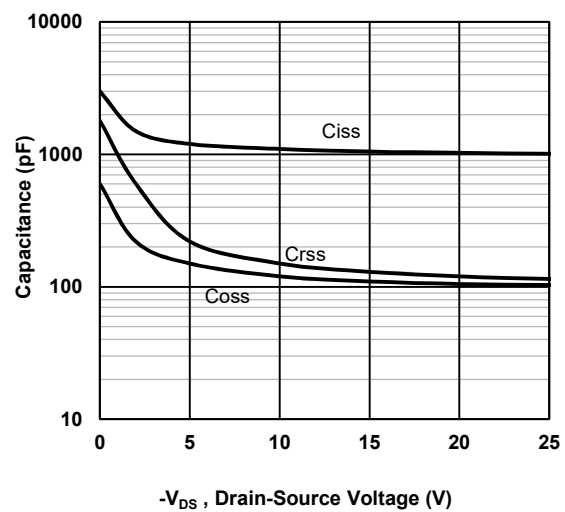
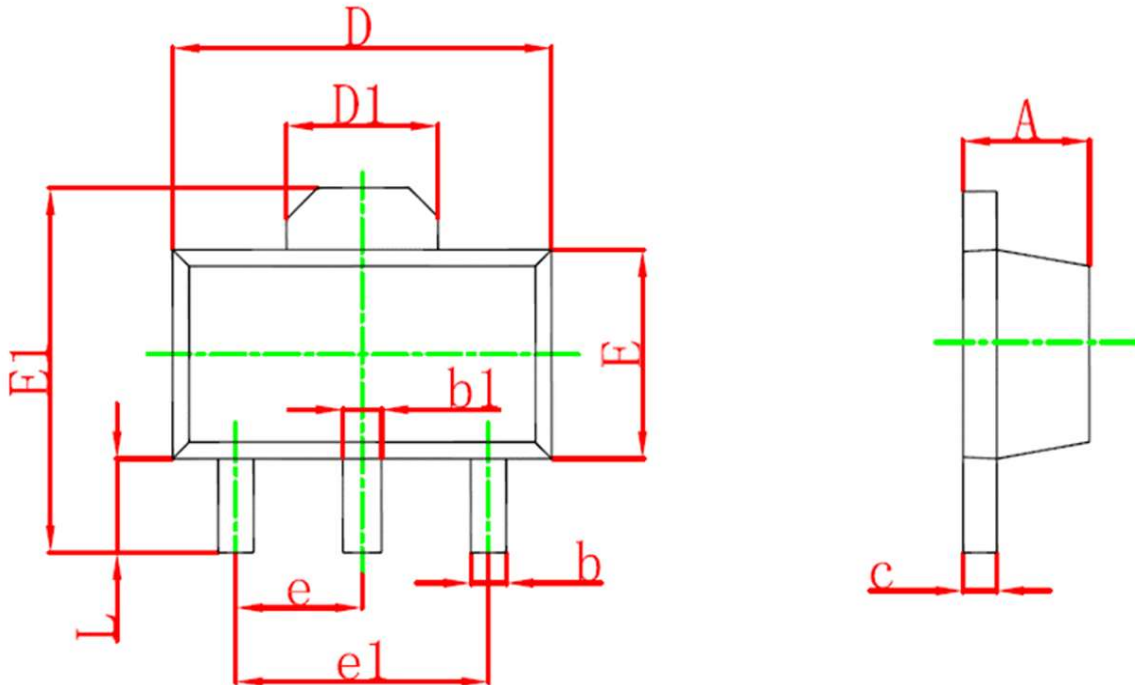


Fig6 Typical Capacitance Vs. Drain-Source

SOT-89-3L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions in Inches	
	Min	Max	Min	Max
A	1.400	1.600	0.055	0.063
b	0.320	0.520	0.013	0.020
b1	0.400	0.580	0.016	0.023
c	0.350	0.440	0.014	0.017
D	4.400	4.600	0.173	0.181
D1	1.550 REF		0.061 REF	
E	2.300	2.600	0.091	0.102
E1	3.940	4.250	0.155	0.167
e	1.500 TYP		0.060 TYP	
e1	3.000 TYP		0.118 TYP	
L	0.900	1.200	0.035	0.047