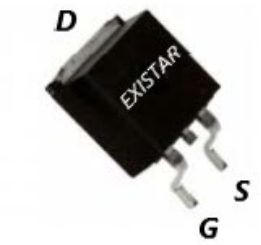
P-Channel 100V MOSFET

E38P100KC

V_{DS} (V)	$R_{DS(on),max}$ (mΩ)	I_D (A)
-100	50@ V_{GS} = -10V	-38

TO252

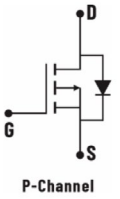


Features

- Trench MOS technology
- Low Rds(on),Low Qg
- Excellent Gate Charge x Rds(ON) Product (FOM)

Applications

- Fast switching



Pb-free
RoHS
COMPLIANT
HALOGEN
FREE

Package and ordering information

Ordering code	Package	Device code
E38P100KC	TO252	---

Absolute Maximum Ratings T_A=25°C unless otherwise noted

Parameter		Symbol	Maximum	Units
Drain-Source Voltage		V_{DS}	-100	V
Gate-Source Voltage		V_{GS}	±20	V
Continuous drain current	TC=25°C	I_D	-38	A
	TC=100°C	I_D	-18	A
Drain Current – Pulsed		I_{DM}	-120	A
Maximum Power Dissipation		P_D	104	W
Single pulse avalanche energy		E_{AS}	285	mJ
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 To 150	℃

Thermal Characteristics

Parameter	Symbol	Typ	Max	Unit
Thermal Resistance junction-case	$R_{\theta JC}$		1.2	℃ /W
Thermal Resistance junction-to-Ambient	$R_{\theta JA}$		62	℃ /W

Electrical Characteristics(TJ=25 ℃ unless otherwise noted)						
Symbol	**Parameter**	**Condition**	**Min**	**Typ**	**Max**	**Unit**
STATICPARAME TERS						
BV_{DSS}	Drain-Source Breakdown Voltage	V_{GS}=0V,I_D=-250μA	-100			V
I_{DSS}	Zero Gate Voltage Drain Current	V_{DS}=-100V,V_{GS}=0V			-1	μA
I_{GSS}	Gate-Body Leakage Current	V_{GS}=±20V,V_{DS}=0V			±100	nA
$V_{GS(th)}$	Gate Threshold Voltage	V_{DS}=V_{GS},I_D=-250μ A	-1.5	-1.9	-2.5	V
$R_{DS(ON)}$	Drain-Source On-State Resistance	V_{GS}=-10V, I_D=-6A		35	50	mΩ
		V_{GS}=-4.5V,I_D=-5A		42	60	mΩ
gfs	Forward Transconductance	V_{DS}=-5V, I_D=-5A		23		S
DYNAMICPARAMET ERS						
C_{iss}	Input Capacitance	V_{DS}=-25V,V_{GS}=0V, F=1.0MHz		4387		pF
C_{oss}	Output Capacitance			228		pF
C_{rss}	Reverse Transfer Capacitance			150		pF
SWITCHINGPARAMETER S						
$t_{d(on)}$	Turn-on Delay Time	V_{DD}=-50V,I_D=-15A, V_{GS}=-10V, R_G=9.1Ω		10		nS
t_r	Turn-on Rise Time			41		nS
$t_{d(off)}$	Turn-Off Delay Time			245		nS
t_f	Turn-Off Fall Time			87		nS
Q_g	Total Gate Charge	V_{DS}=-50V,I_D=-15A, V_{GS}=0到-10V		81		nC
Q_{gs}	Gate-Source Charge			18		nC
Q_{gd}	Gate-Drain Charge			14.5		nC
V_{SD}	Diode Forward Voltage	V_{GS}=0V,I_{SD}=-1A			-1.4	V