SSF5508

Feathers:

- Advanced trench process technology
- Ultra low Rdson, typical 6mohm
- High avalanche energy, 100% test
- Fully characterized avalanche voltage and current

Description:

The SSF5508 is a new generation of middle voltage and high current N–Channel enhancement mode trench power MOSFET. This new technology increases the device reliability and electrical parameter repeatability. SSF5508 is assembled in high reliability and qualified assembly house.

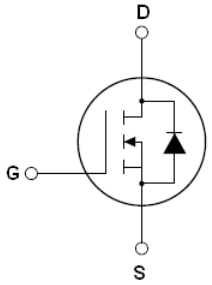
Application:

- Power switching application

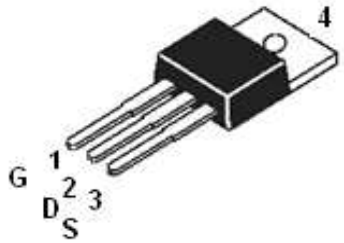
ID =110A

BV=55V

Rdson=4.5 mΩ(typ.)



SSF5508 TOP View (TO220)



Absolute Maximum Ratings

	Parameter	Max.	Units
I_D@T_c=25℃	Continuous drain current,VGS@10V	110	A
I_D@T_c=100℃	Continuous drain current,VGS@10V	80	
I_{DM}	Pulsed drain current ①	400	
P_D@T_C=25℃	Power dissipation	170	W
	Linear derating factor	2.0	W/℃
V_{GS}	Gate-to-Source voltage	±20	V
dv/dt	Peak diode recovery voltage	31	v/ns
E_{AS}	Single pulse avalanche energy ②	480	mJ
E_{AR}	Repetitive avalanche energy	TBD	
T_J T_{STG}	Operating Junction and Storage Temperature Range	–55 to +150	℃

Thermal Resistance

	Parameter	Min.	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-case	—	0.73	—	℃/W
$R_{\theta JA}$	Junction-to-ambient	—	—	62	

Electrical Characteristics @TJ=25 ℃(unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Test Conditions
BV_{DSS}	Drain-to-Source breakdown voltage	55	—	—	V	V_{GS}=0V,I_D=250μA
$R_{DS(on)}$	Static Drain-to-Source on-resistance	—	4.5	8	mΩ	V_{GS}=10V,I_D=68A
$V_{GS(th)}$	Gate threshold voltage	2.0		4.0	V	V_{DS}=V_{GS},I_D=250μA
g_{fs}	Forward transconductance	-	58	—	S	V_{DS}=5V,I_D=30A
I_{DSS}	Drain-to-Source leakage current	—	—	2	μA	V_{DS}=55V,V_{GS}=0V
		—	—	10		V_{DS}=55V, V_{GS}=0V,T_J=150℃
I_{GSS}	Gate-to-Source forward leakage	—	—	100	nA	V_{GS}=20V