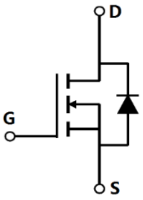
. V_{th} series is specially

- -
- Switched mode power supply

Parameter	Value	Unit
$V_{DS, min}$ @ $T_{j(max)}$	80	V
$I_{D, pulse}$	32	A
$R_{DS(ON), max}$ @ V_{GS}=10V	16	
Q_g	22.5	nC

Product Name	Package	Marking
SFG08R16BF	SOP8	SFG08R16B



Absolute Maximum Ratings at T_j=25 unless otherwise noted

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	80	V
Gate-source voltage	V_{GS}	±20	V
Continuous drain current[1], T_C=25 °C	I_D	8	A
Pulsed drain current[2], T_C=25 °C	$I_{D,\ pulse}$	32	A
Continuous diode forward current[1], T_C=25 °C	I_S	40	A
Diode pulsed current[2], T_C=25 °C	$I_{S,\ pulse}$	120	A
Power dissipation[3], T_C=25 °C	P_D	3.5	W
Single pulsed avalanche energy[5]	E_{AS}	20	mJ
Operation and storage temperature	T_{stg}, T_j	-55 to 150	°C

Thermal Characteristics

Parameter	Symbol	Value	Unit
Thermal resistance, junction-ambient[4]	R	62	°C/W

Electrical Characteristics at T_j=25 unless otherwise specified

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Drain-source breakdown voltage	BV_{DSS}	80			V	V_{GS}=0 V, I_D=250 A
Gate threshold voltage	$V_{GS(th)}$	1.0		2.5	V	V_{DS}=V_{GS}, I_D=250 A
Drain-source on-state resistance	$R_{DS(ON)}$		13.0	16.0		V_{GS}=10 V, I_D=8 A
Drain-source on-state resistance	$R_{DS(ON)}$		16.0	20.0		V_{GS}=4.5 V, I_D=6 A
Gate-source leakage current	I_{GSS}			100	nA	V_{GS}=20 V
				-100		V_{GS}=-20 V
Drain-source leakage current	I_{DSS}			1	A	V_{DS}=80 V, V_{GS}=0 V

Dynamic Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test condition
Input capacitance	C_{iss}		1432.2		pF	V_{GS}=0 V, V_{DS}=50 V, 00 kHz
Output capacitance	C_{oss}		343.6		pF	
Reverse transfer capacitance	C_{rss}		9.1		pF	
Turn-on delay time	$t_{d(on)}$		18.9		ns	V_{GS}=10 V, V_{DS}=50 V, R_G I_D=10 A
Rise time	t_r		4.6		ns	
Turn-off delay time	$t_{d(off)}$					

Electrical Characteristics Diagrams

Figure 1. Typ. output characteristics

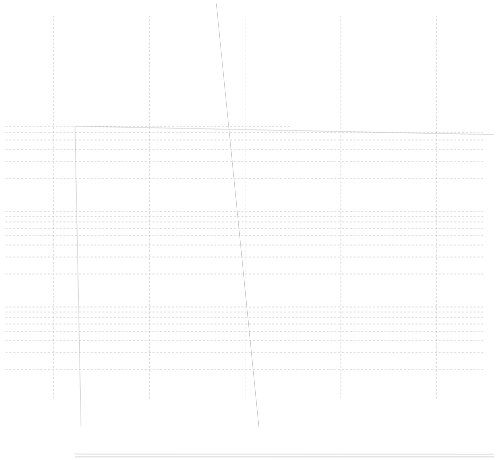


Figure 2. Typ. transfer characteristics

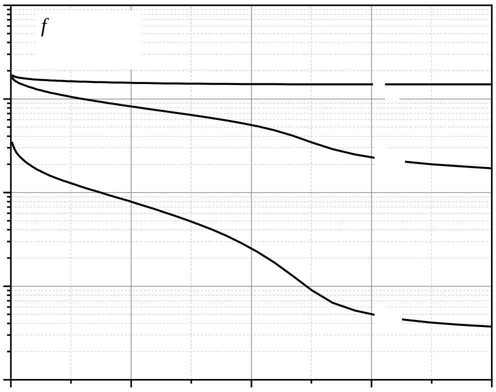


Figure 3. Typ. capacitances

Figure 4. Typ. gate charge

Figure 5. Drain-source breakdown voltage

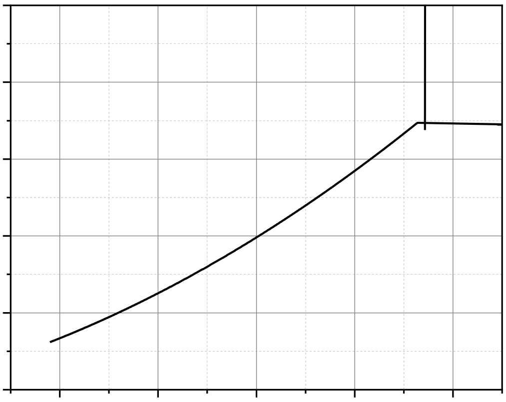


Figure 6. Drain-source on-state resistance

Figure 7. Threshold voltage

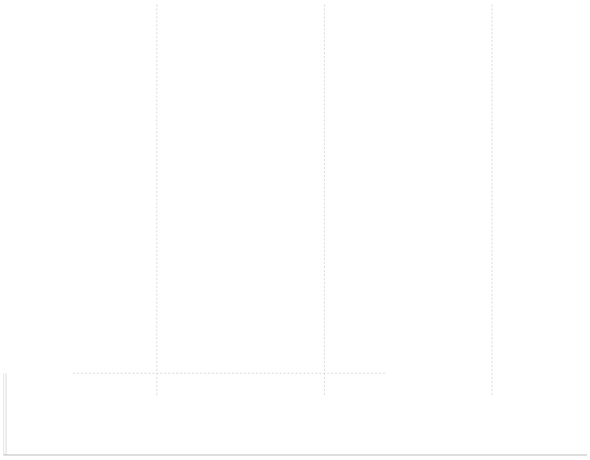


Figure 8. Forward characteristic of body diode

Figure 9. Drain-source on-state resistance

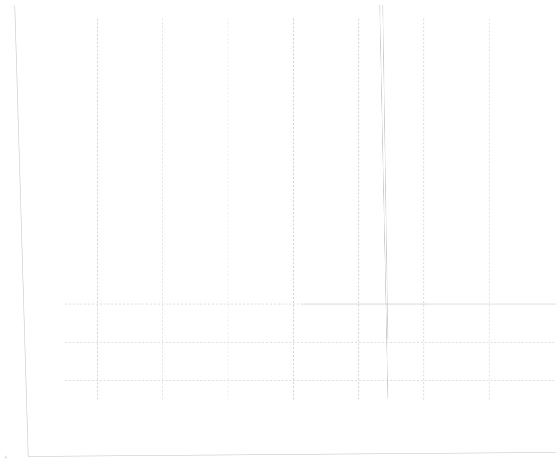


Figure 10. Drain current

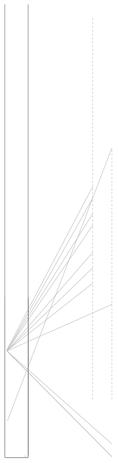


Figure 11. Safe operation area T_C=25 °C

Ordering Information

Package Type	Units/ Reel	Reels/ Inner Box	Units/ Inner Box	Inner Boxes/ Carton Box	Units/ Carton Box
SOP8-K	2500	2	5000	6	30000

Product Information

Product	Package	Pb Free	RoHS	Halogen Free
SFG08R16BF	SOP8	yes	yes	yes

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