

### General Description

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low  $R_{DS(ON)}$ .

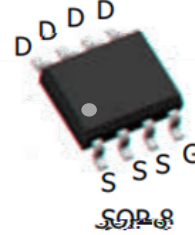
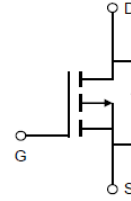
### Features

Trench technology  
 $R_{DS(ON)}$  to minimize conductive loss

### Application

2<sup>nd</sup> Synchronous Rectifier

### Product Summary



### Ordering Information:

Part NO.	ZM220P02S
Marking	ZM220P02
Packing Information	REEL TAPE
Basic ordering unit (pcs)	4000

### Absolute Maximum Ratings $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 12$	V
Continuous Drain Current	$I_D @ T_C = 25$	-6.2	A
	$I_D @ T_C = 75$	-4.7	A
	$I_D @ T_C = 100$	-3.9	A
Pulsed Drain Current	$I_{DM}$	-18.6	A
Total Power Dissipation	$P_D @ T_C = 25$	3.6	W
Total Power Dissipation	$P_D @ T_A = 25$	0.69	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	25	mJ

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	$R_{thJC}$	-	-	34	° C/W
Thermal resistance, junction - ambient	$R_{thJA}$	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	$T_{sold}$	-	-	265	° C

**Electronic Characteristics**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = -250\mu A$	-			

Fig.1 Gate-Charge Characteristics

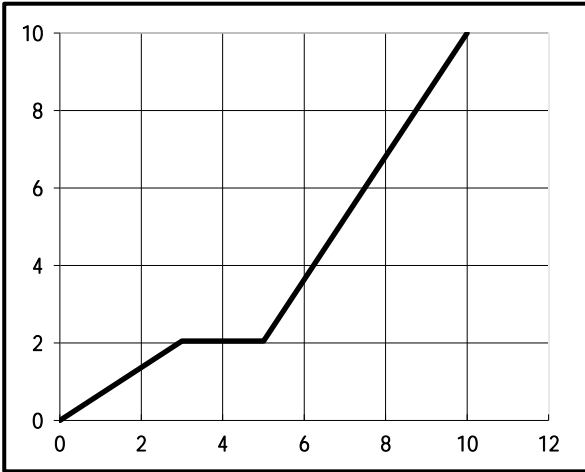


Fig.2 Capacitance Characteristics

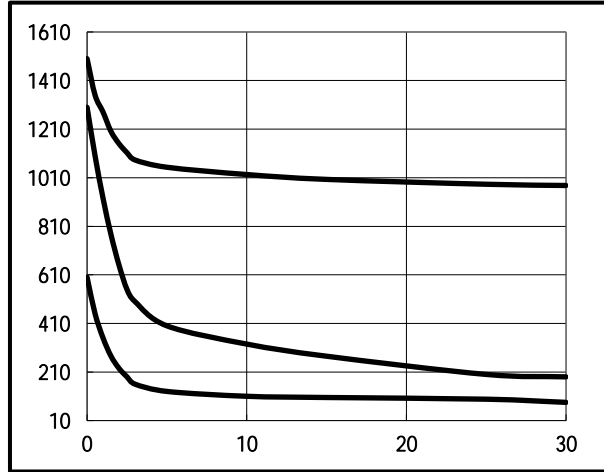


Fig.3 Power Dissipation Derating Curve

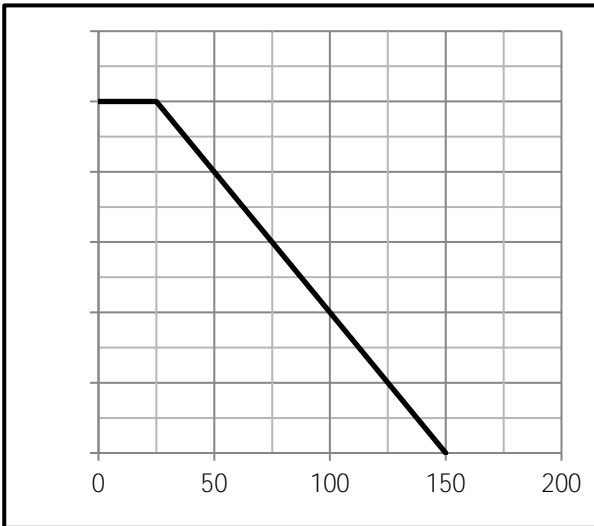


Fig.4 Typical output Characteristics

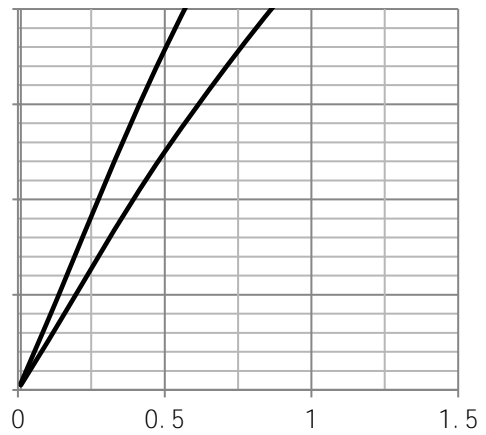


Fig.5 Threshold Voltage V.S Junction Temperature

Fig.6 Resistance V.S Drain Current

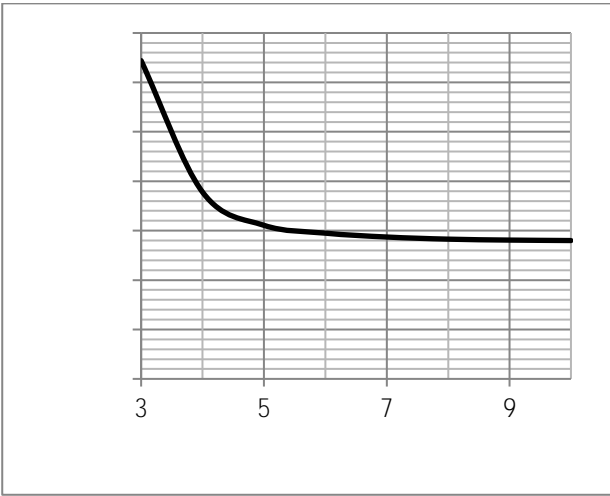


Fig.9 Switching Time Measurement Circuit

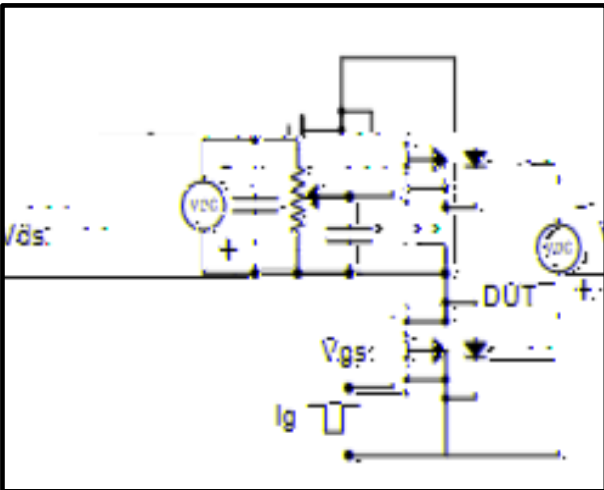


Fig.11 Switching Time Measurement Circuit

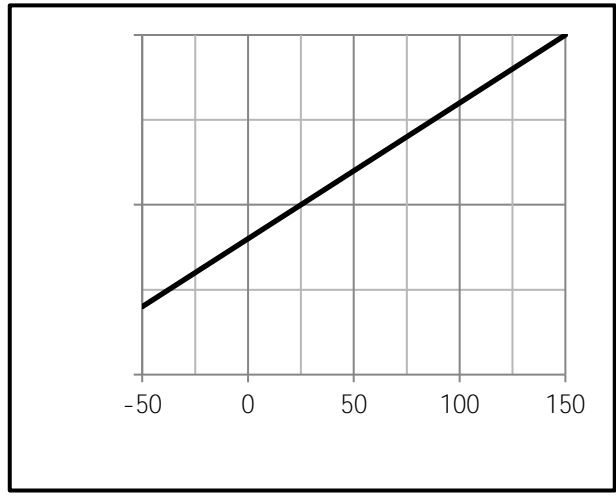
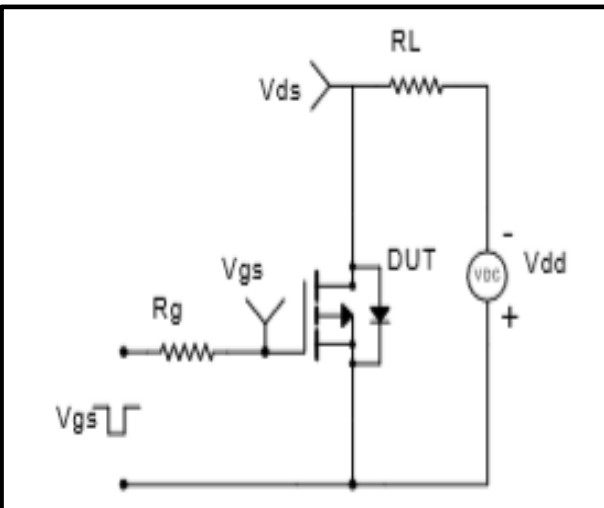


Fig.10 Gate Charge Waveform

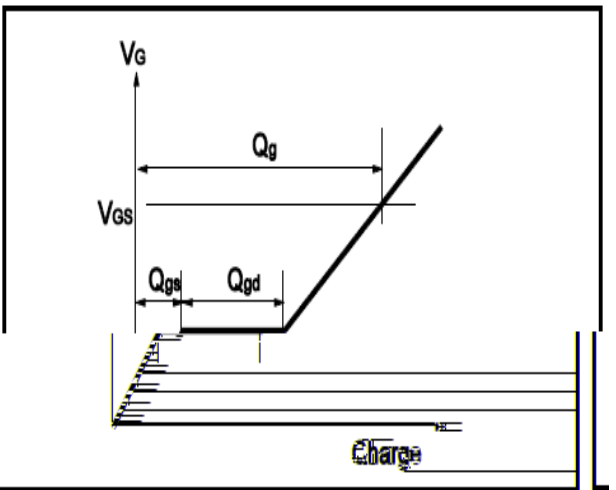
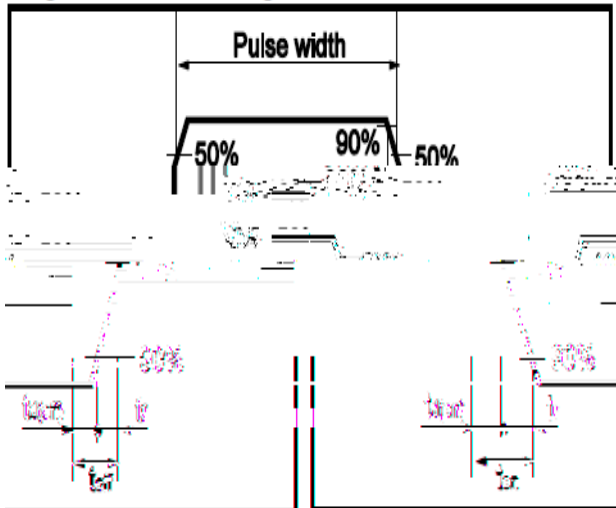


Fig.12 Gate Charge Waveform



**Dimensions(SOP8)**

Unit: mm

SYMBOL	min	TYP	max	SYMBOL	min		max
A	4.80		5.25	C	1.30		1.75
A1	0.37		0.49	C1	0.55		0.75
A2		1.27		C2	0.55		0.65
A3		0.41		C3	0.05		0.20
B	5.80		6.20	C4	0.10	0.20	0.23
B1	3.80		4.10	D		1.05	
B2		5.00		D1	0.40		0.62

