

General Description

The ZMS035N08HR combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.

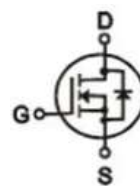
Features

- Advance device constructure
- Low $R_{DS(ON)}$ to minimize conduction loss
- Low Gate Charge for fast switching
- Low Thermal resistance

Application

- Synchronous Rectification for AC-DC/DC-DC converter
- Oring switches
- Power Tools

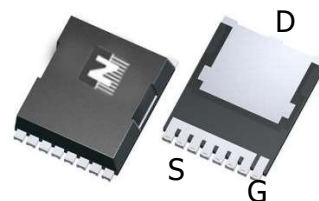
Product Summary



$$V_{DS}=80V$$

$$R_{DS(ON)}=3.1m\Omega$$

$$I_D=160A$$



TOLL

Ordering Information:

Part NO.	ZMS035N08HR
Marking	ZMS035N08H
Packing Information	REEL TAPE
Basic ordering unit (pcs)	2000

Absolute Maximum Ratings ($T_c=25^{\circ}C$)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	80	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_{D@TC=25^{\circ}C}$	160	A
	$I_{D@TC=75^{\circ}C}$	121	A
	$I_{D@TC=100^{\circ}C}$	100	A
Pulsed Drain Current ^①	I_{DM}	480	A
Total Power Dissipation	$P_{D@TC=25^{\circ}C}$	112	W
Operating Junction Temperature	T_J	-55 to 150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to 150	$^{\circ}C$
Single Pulse Avalanche Energy@L=0.1mH	E_{AS}	125	mJ

•Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	0.9	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	30	° 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}	$V_{GS} = 0V, I_D = 250\mu A$	80			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	2		4	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 80V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Static Drain-source On Resistance	$R_{DS(ON)}$	$V_{GS} = 10V, I_D = 30A$		3.1	4.0	m Ω
Forward Transconductance	g_{FS}	$V_{DS} = 10V, I_D = 40A$		28		s
Source-drain voltage	V_{SD}	$I_S = 30A$			1.28	V

•Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	C_{iss}	$V_{DS} = 25V$ $f = 1MHz$	-	3300	-	pF
Output capacitance	C_{oss}		-	1890	-	
Reverse transfer capacitance	C_{rss}		-	210	-	

•Gate Charge characteristics($T_a = 25^\circ C$)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	Q_g	$V_{DD} = 15V$	-	58	-	nC
Gate - Source charge	Q_{gs}	$I_D = 30A$	-	16	-	
Gate - Drain charge	Q_{gd}	$V_{GS} = 10V$	-	14	-	

Note: ① Pulse Test : Pulse width $\leq 10\mu s$, Duty cycle $\leq 1\%$;

Fig.1 Gate-Charge Characteristics

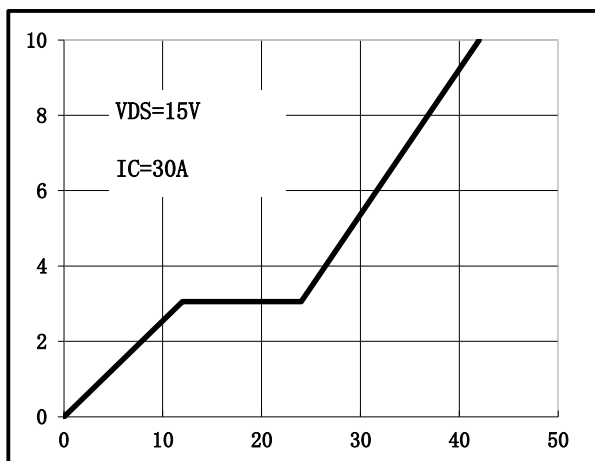


Fig.2 Capacitance Characteristics

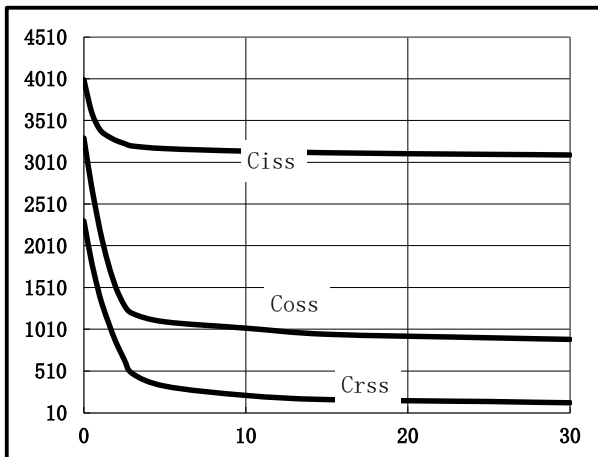


Fig.3 Power Dissipation

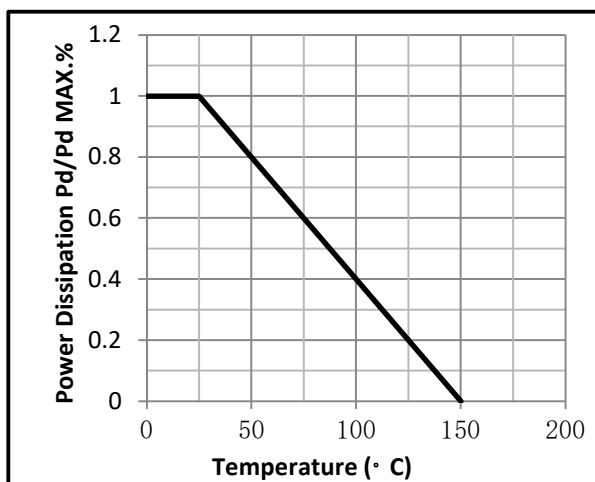


Fig.4 Typical output Characteristics

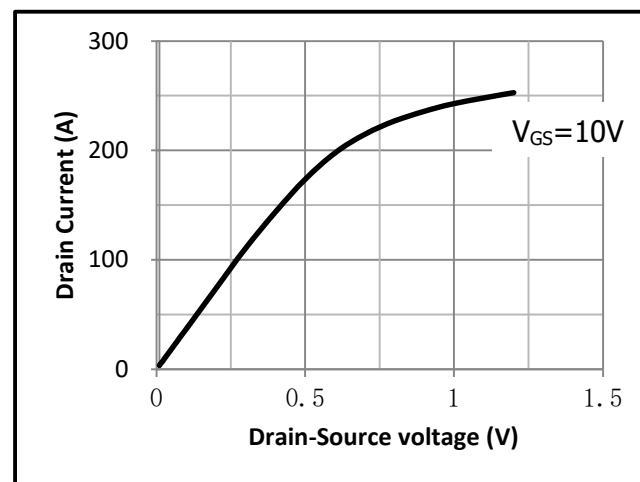


Fig.5 Threshold Voltage V.S Junction Temperature

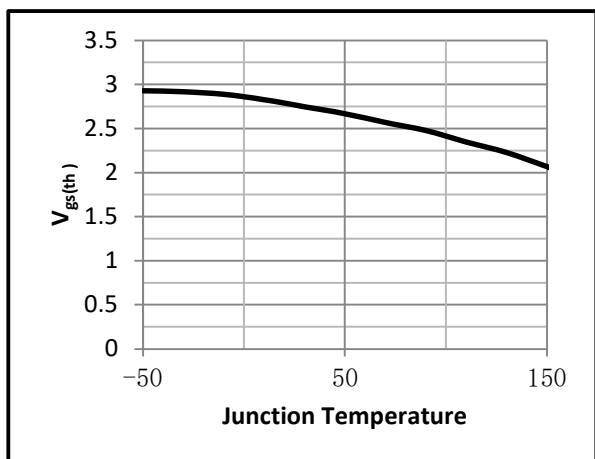


Fig.6 Resistance V.S Drain Current

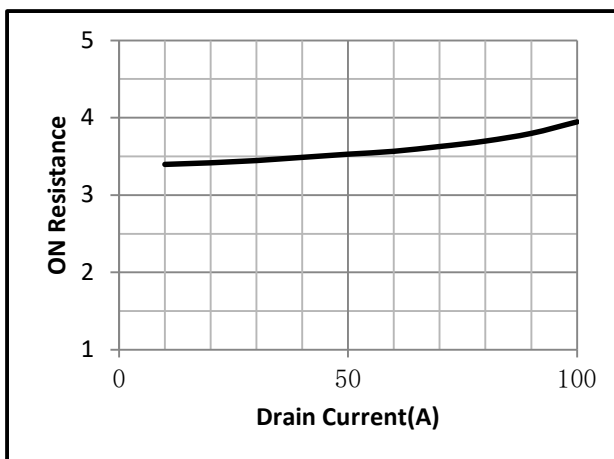


Fig.7 On-Resistance VS Gate Source Voltage

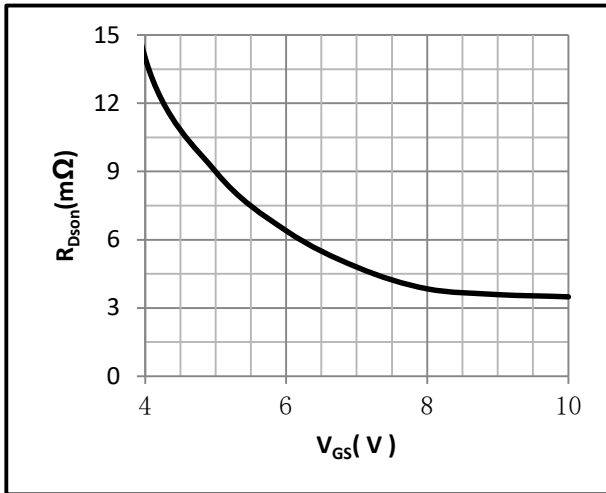


Fig.8 On-Resistance V.S Junction Temperature

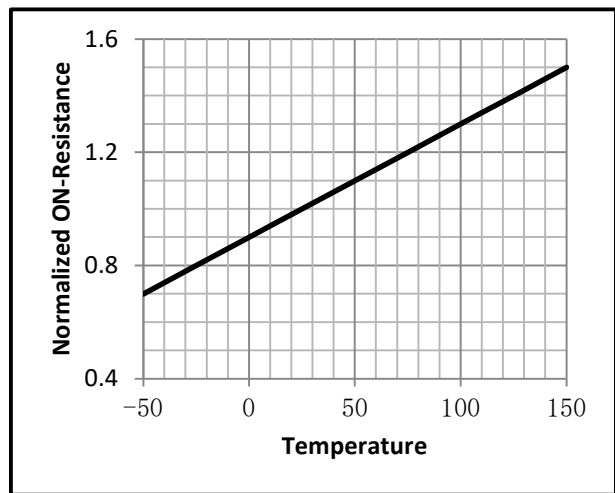


Fig.9 Gate Charge Measurement Circuit

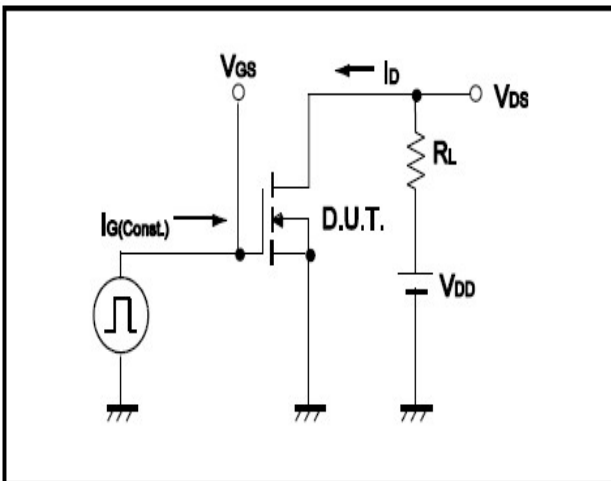


Fig.10 Gate Charge Waveform

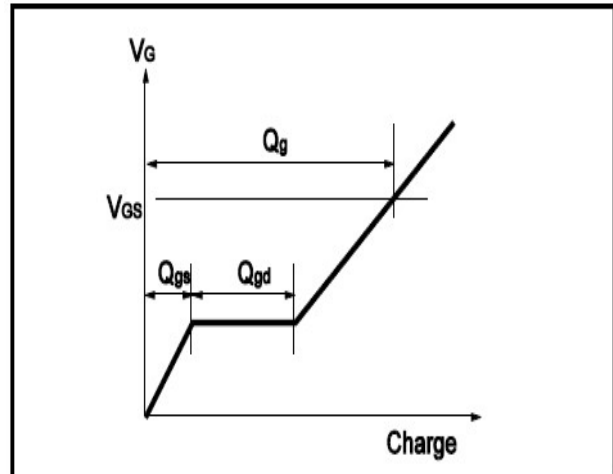


Fig.11 Switching Time Measurement Circuit

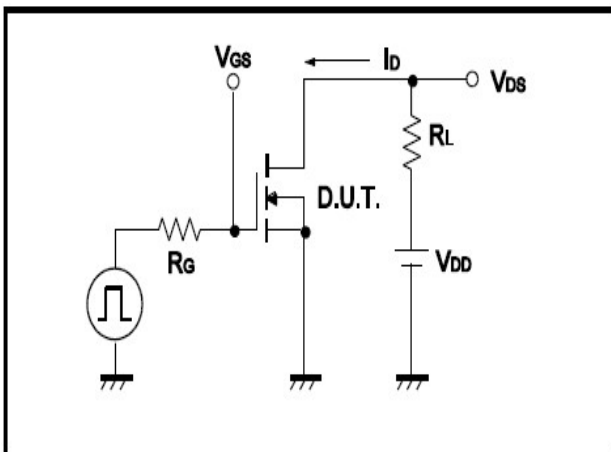
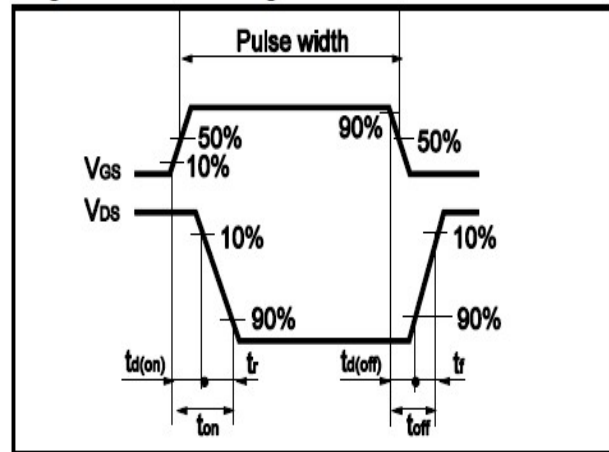


Fig.12 Switching Time Waveform



•Dimensions (TOLL)

Unit: mm

