● General Description

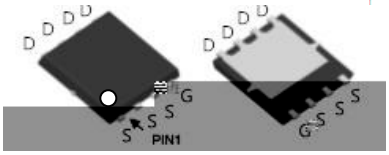
The ZM140N10HN combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.

● Features

Trench technology

$_{DS(ON)}$ to minimize conductive loss

● Product Summary



●Application

Synchronous Rectification for AC-DC/DC-DC converter

Oring switches

●Ordering Information:

	REEL TAPE
	3000

●Absolute Maximum Ratings T_C =25

Parameter	**Symbol**	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current(TC=25)	$I_{D@}$TC=25	40	A
	$I_{D@}$TC=75	30	A
	$I_{D\ @}$TC=100	25	A
Pulsed Drain Current	I_{DM}	105	A
Total Power Dissipation(TC=25)	P_D@TC=25	85	W
Total Power Dissipation(TA=25)	P_D@TA=25	3.4	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy@L=0.1mH	E_{AS}	80	mJ

●Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	1.5	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	37	° C/W
Soldering temperature, wave soldering 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 =250uA	100			V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} =V_{DS}, I_D =250uA	2		4	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=100V, V_{GS} =0V			1.0	uA
Gate- Source Leakage Current	I_{GSS}	V_{GS}=±20V ,V_{DS} =0V			±100	nA
Static Drain-source On Resistance		V_{GS}=10V, I_D=20A		14	17	mΩ
		V_{GS}=4.5V, I_D=12A		17	20	mΩ

Fig.1 Gate-Charge Characteristics

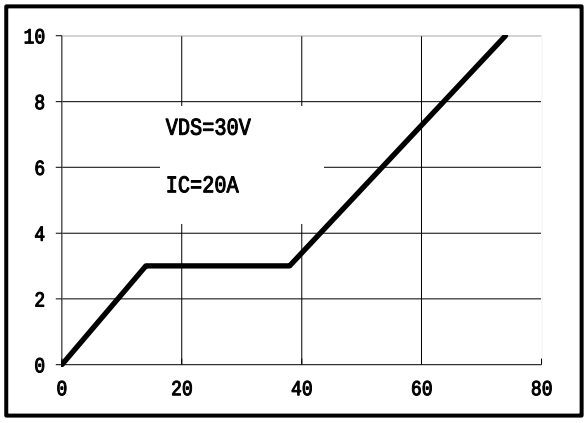


Fig.2 Capacitance Characteristics

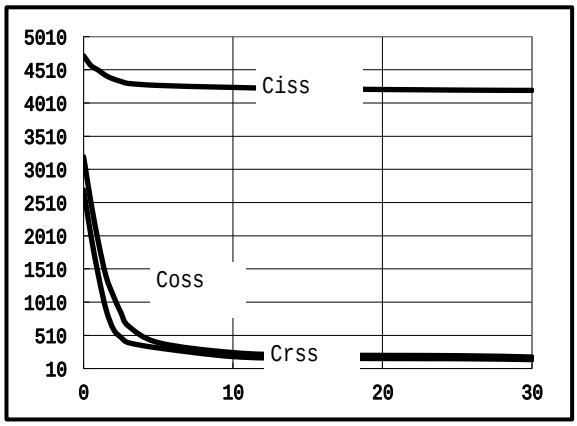


Fig.3 Power Dissipation

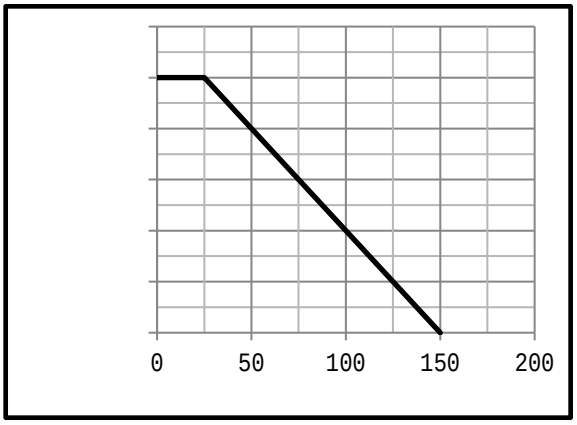


Fig.4 Typical output Characteristics

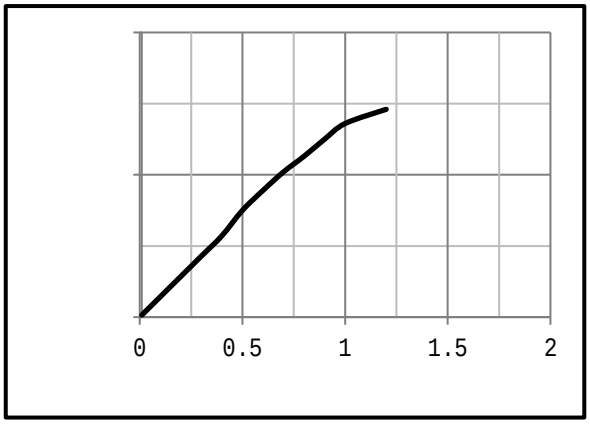


Fig.5 Threshold Voltage V.S Junction Temperature

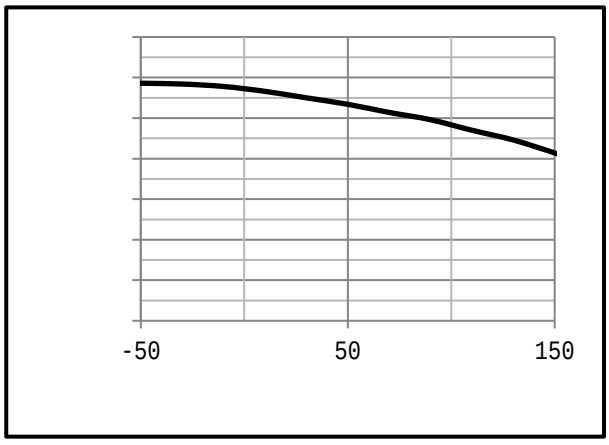
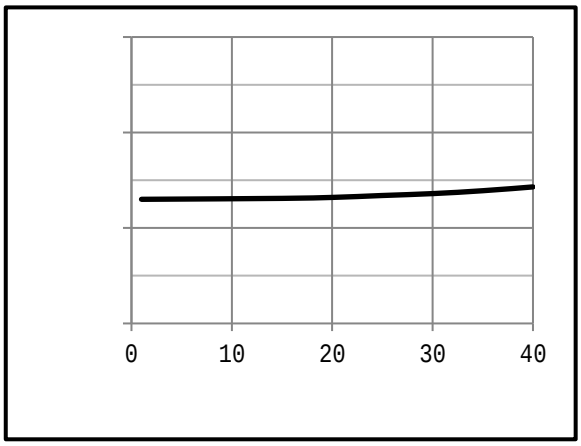
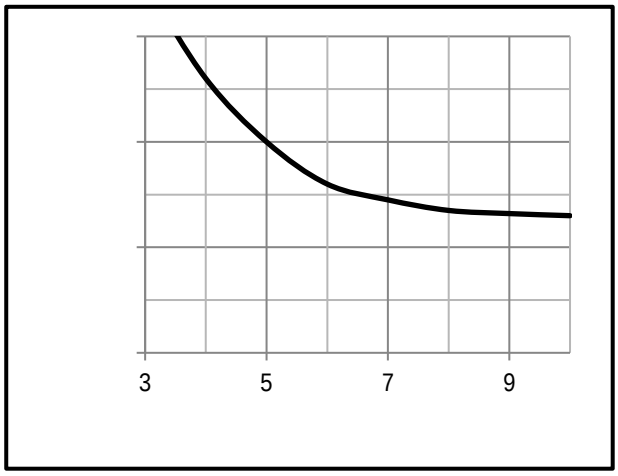


Fig.6 Resistance V.S Drain Current





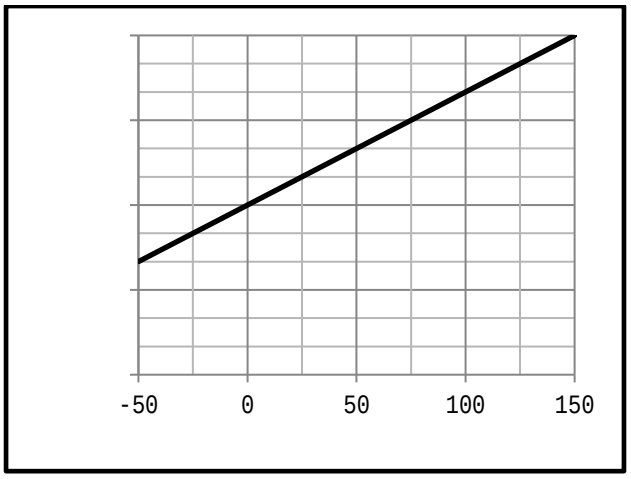
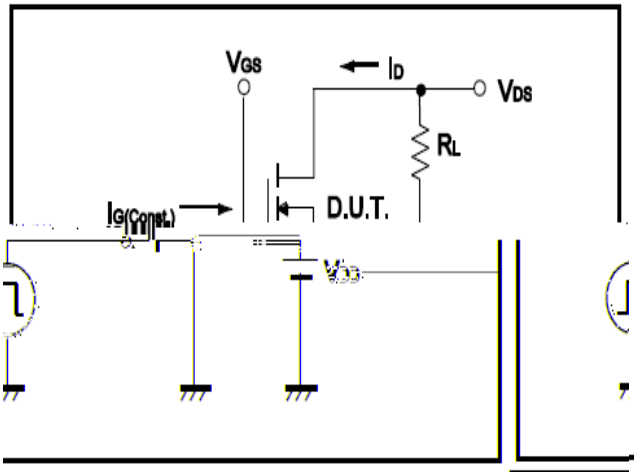


Fig.9 Switching Time Measurement Circuit

Fig.10 Gate Charge Waveform



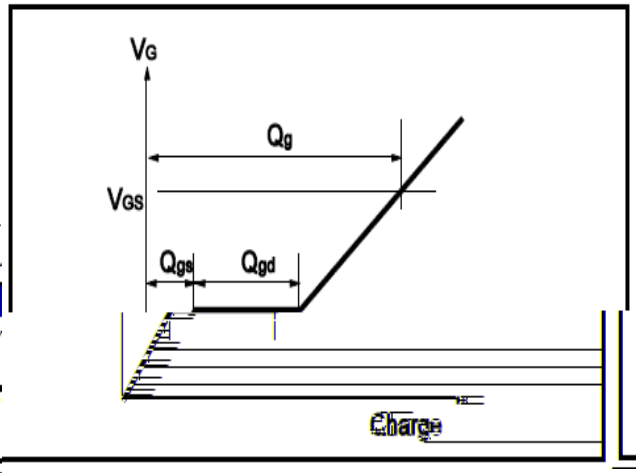
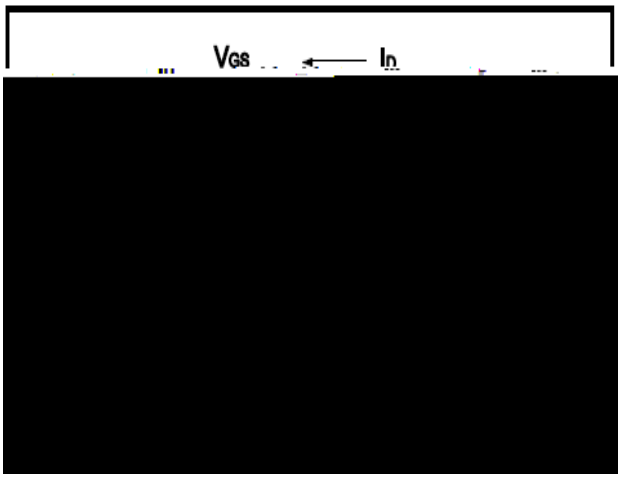
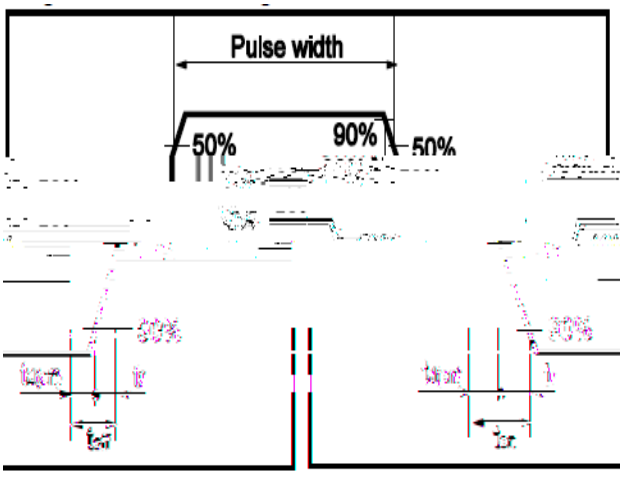


Fig.11Switching Time Measurement Circuit

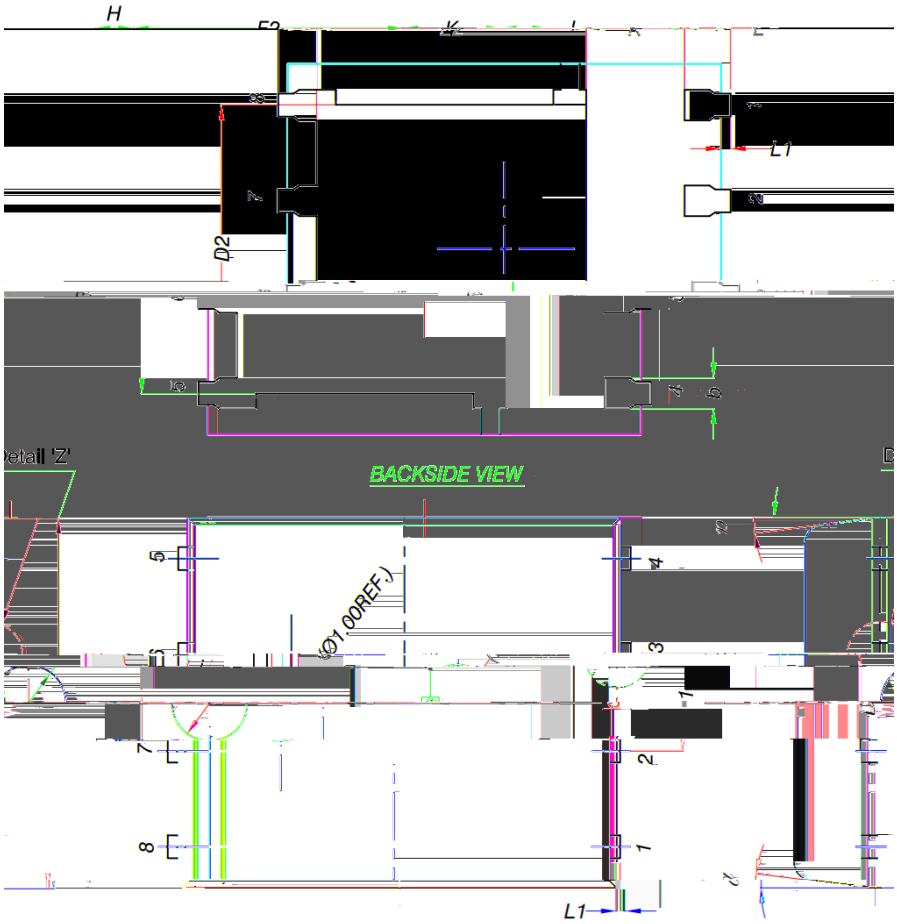
Fig.12 Gate Charge Waveform





●Dimensions DFN5×6

Unit mm



DIM	MILLIMETERS		
A1	0.00	1.00	1.10
A3	0		0.05
b	0.33	0.43	0.51
b1	0.3	0.35	0.38
D	5.00		
D1	4.80	4.90	
D2	3.61	3.81	
E	5.90	6.00	
E1	5.70		5.75
E2	3.76		
e	1.27 BSC		
K	0.51		
L	0.51	0.71	
L1	0.13	0.20	
θ		12°	