



**General Description**

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low  $R_{DS(ON)}$ . This device is ideal for switch and battery protection applications.

**Features**

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

Wettable Flanks

**Application**

nd Synchronous Rectifier

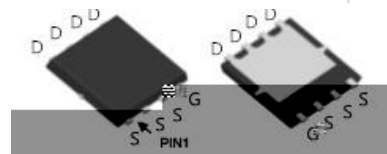
**Product Summary**



$V_{DS} = 30V$

$R_{DS(ON)} = 3.5m$

$I_D = 77A$



DFN5 6

**Ordering Information:**

Part NO.	ZMS030N03N
Marking	ZMS030N03
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

**Absolute Maximum Ratings  $T_C = 25$**

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continuous Drain Current	$I_D @ T_C = 25$	77	A
	$I_D @ T_C = 75$	58	A
	$I_D @ T_C = 100$	48	A
	$I_D @ T_A = 25$	25	A
	$I_D @ T_A = 70$	20	A
Pulsed Drain Current	$I_{DM}$	231	A
Total Power Dissipation	$P_D @ T_C = 25$	40	W
Total Power Dissipation	$P_D @ T_A = 25$	2.5	W
Operating Junction Temperature	$T_J$	-55 to 175	
Storage Temperature	$T_{STG}$	-55 to 175	





Gate - Drain charge	Qgd		-	7.4	-	
Turn-ON Delay time	t <sub>D(on)</sub>	V <sub>GS</sub> =10V, V <sub>DS</sub> =15V R <sub>G</sub> = 6 Ω , I <sub>b</sub> =30A		6.5		ns
Turn-ON Rise time	t <sub>r</sub>			3.5		ns
Turn-Off Delay time	t <sub>D(off)</sub>			26		ns
Turn-Off Fall time	t <sub>f</sub>			4.5		ns

Reverse Recovery Time

t<sub>RR</sub>

V<sub>DD</sub> = 20 V,  
dI<sub>S</sub>/dt = 100  
A/s, I<sub>S</sub> = 30 A



Fig.5 On-Resistance VS Gate Source Voltage

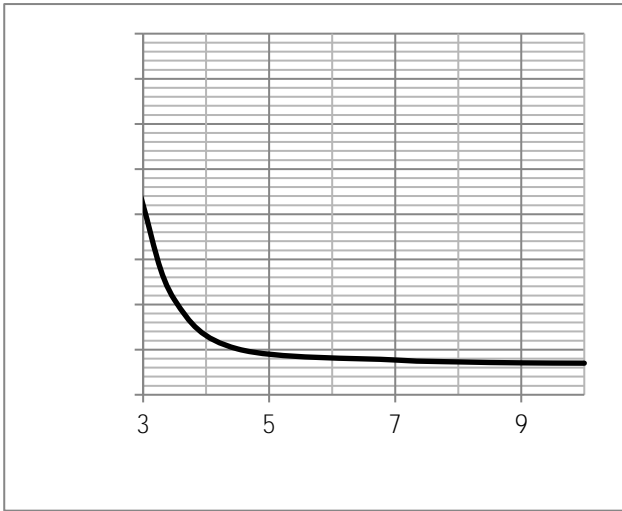


Fig.6 On-Resistance V.S Junction Temperature

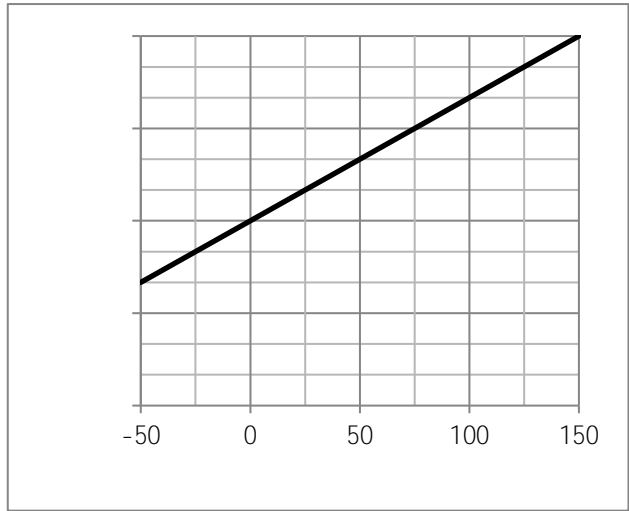


Fig.7 SOA Maximum Safe Operating Area

Fig.8 ID-Junction Temperature

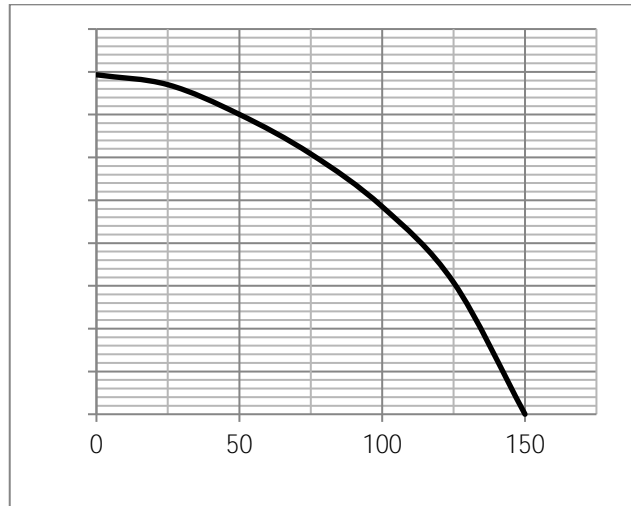


Figure 9. Diode Forward Voltage vs. Current

Figure 10. Transfer Characteristics

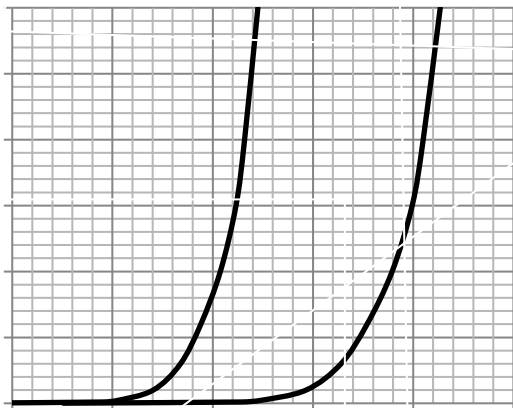






Fig.16 Avalanche Measurement Circuit

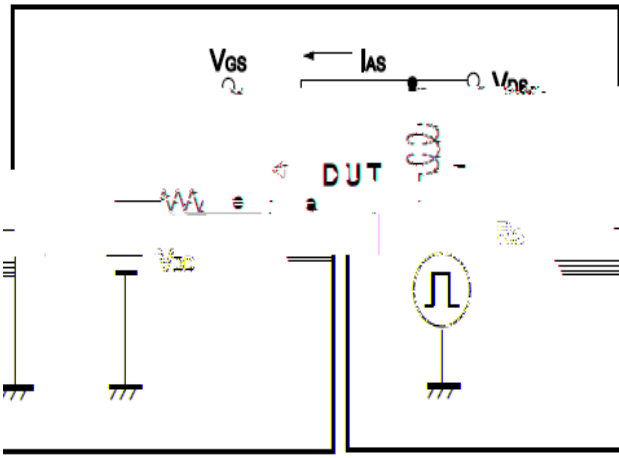


Fig.17 Avalanche Waveform

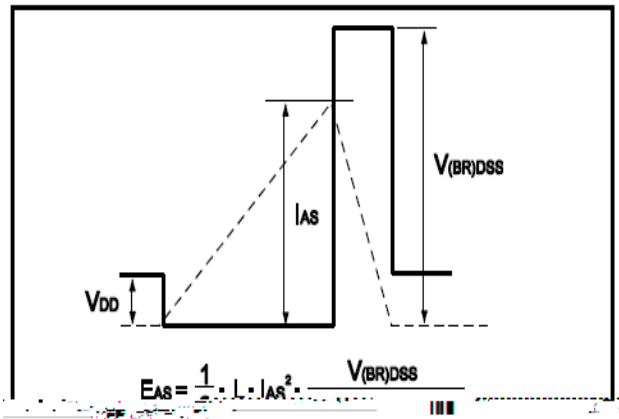
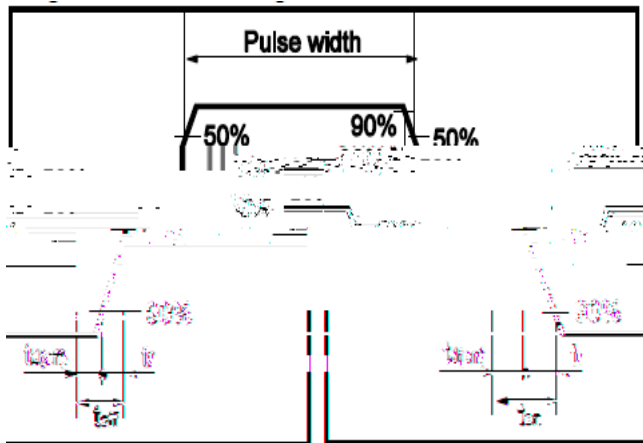


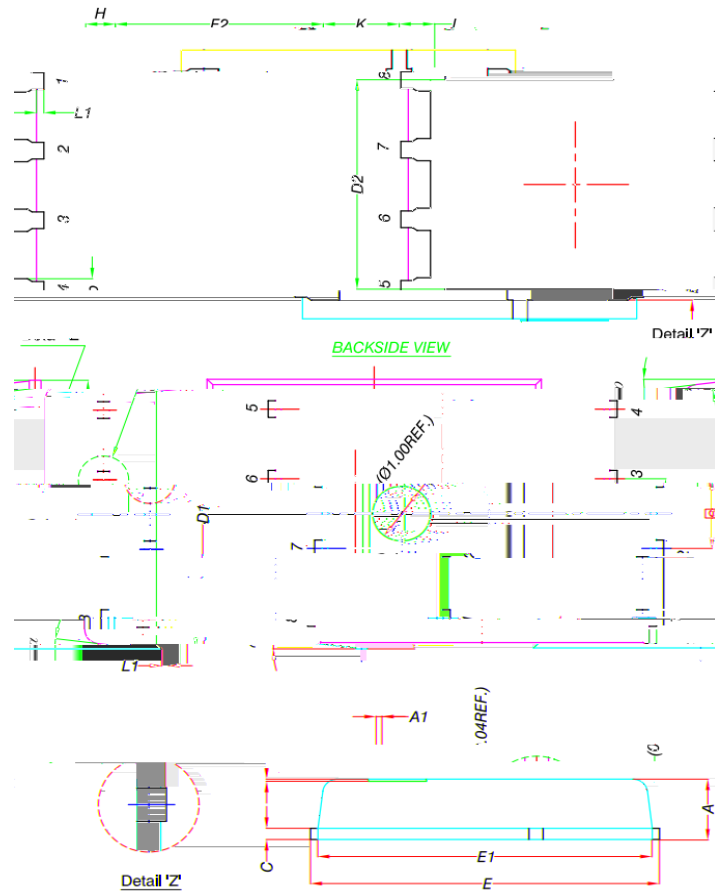
Fig.18 Gate Charge Waveform





Dimensions DFN5x6

Unit mm



DIM.	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.90	1.00	1.10
A1	0	-	0.05
b	0.33	0.41	0.51
C	0.20	0.25	0.30
D1	4.80	4.90	5.00
D2	3.61	3.81	3.96

