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The ZM200P02T combines advanced trench MOSFET technology with a low resistance package to provide extremely low  $R_{DS(ON)}$ .

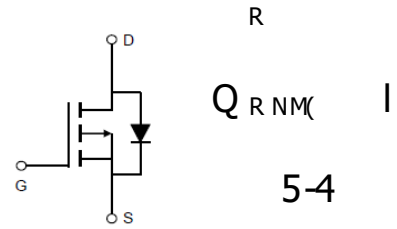
**2**

Trench technology

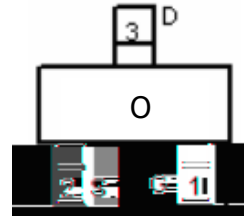
$R_{DS(ON)}$  to minimize conductive loss

fast switching

Load Switches  
DC/DC

**Product Summary**


5-4



RNS 2 2

Part NO.	ZM200P02T
Marking	ZM200P02
Packing Information	REEL TAPE
Basic ordering unit (pcs)	3000

$T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	$V_{DS}$	-20	V
Gate-Source Voltage	$V_{GS}$	$\pm 8$	V
Continuous Drain Current	$I_{D@TC=25}$	-6.5	A
	$I_{D@TC=75}$	-4.9	A
	$I_{D@TC=100}$	-4.1	A
Pulsed Drain Current	$I_{DM}$	-15	A
Total Power Dissipation	$P_D$	1.5	W
Total Power Dissipation	$P_{D@TA=25}$	0.7	W
Operating Junction Temperature	$T_J$	-55 to 150	
Storage Temperature	$T_{STG}$	-55 to 150	
Single Pulse Avalanche Energy	$E_{AS}$	45	mJ

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	$R_{thJC}$	-	-	80	° C/W
Thermal resistance, junction - ambient	$R_{thJA}$	-	-	180	° C/W
Soldering temperature, wavesoldering for 10s	$T_{sold}$	-	-	265	° C

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	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = -250\mu A$	-0.3		-1.2	V
Drain-Source Leakage Current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			1.0	$\mu A$
Gate- Source Leakage Current	$I_{GSS}$	$V_{GS} = \pm 8V, V_{DS} = 0V$			100	nA
Static Drain-source On Resistance	$Q_{RNM}$	$V_{GS} = -4.5V, I_D = -3A$				
		$V_{GS} = -2.5V, I_D = -2A$				
Forward Transconductance	$g_{FS}$	$V_{DS} = -10V, I_D = -2A$				
Source-drain voltage	$V_{SD}$	$I_S = -3A$				

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Input capacitance	$C_{iss}$	$f = 1MHz$	-	1350	-	pF
Output capacitance	$C_{oss}$		-	194	-	
Reverse transfer capacitance	$C_{rss}$		-	148	-	

**Gate Charge characteristics( $T_a = 25$  )**

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Total gate charge	$Q_g$	$V_{DD} = -15V$	-	14	-	nC
Gate - Source charge	$Q_{gs}$	$I_D = -4A$	-	6	-	
Gate - Drain charge	$Q_{gd}$	$V_{GS} = -4.5V$	-	8	-	

Note:

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Device mounted on FR-4 substrate PC board, 2oz copper, with thermal bias to bottom layer 1inch square copper plate

Fig.1 Gate-Charge Characteristics

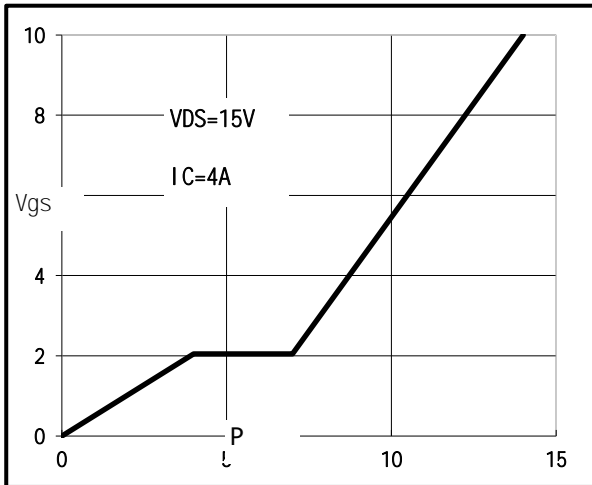


Fig.2 Capacitance Characteristics

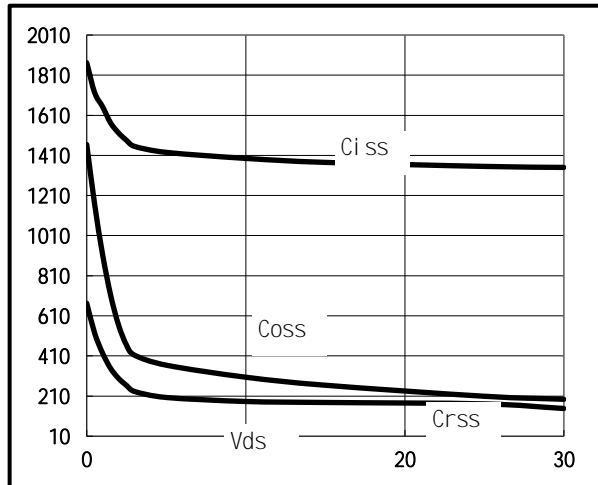


Fig.3 Power Dissipation Derating Curve

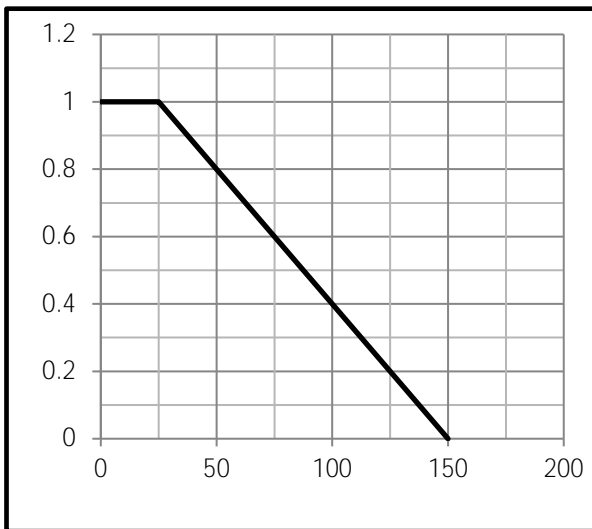


Fig.4 Typical output Characteristics

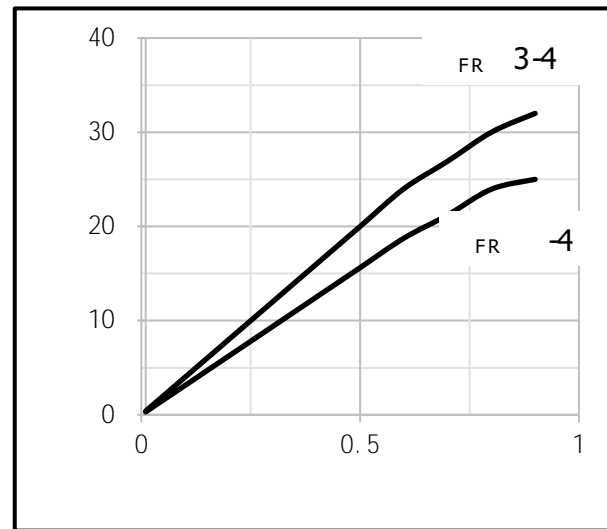


Fig.5 Threshold Voltage V.S Junction Temperature

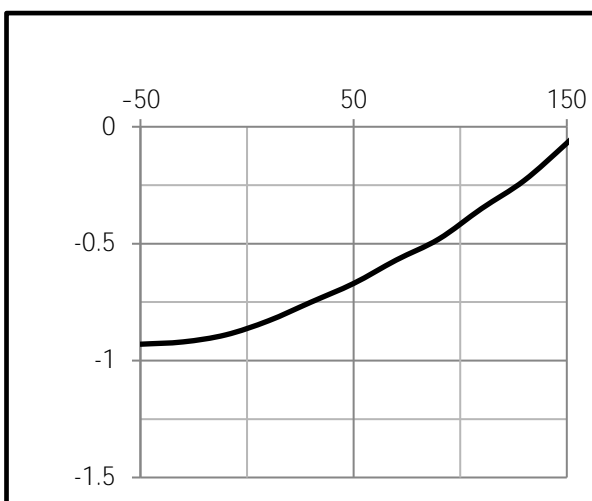
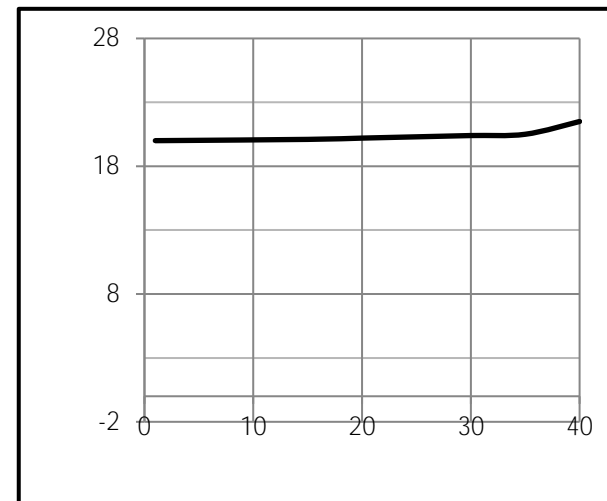


Fig.6 Resistance V.S Drain Current



6 NmQdr rs md R F sd Rnt d ns d

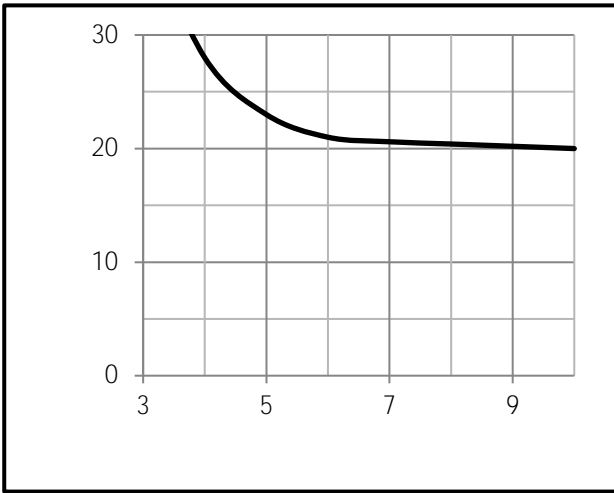


Fig.9 Switching Time Measurement Circuit

7 NmQdr rs md RItmsnmSdl od st d

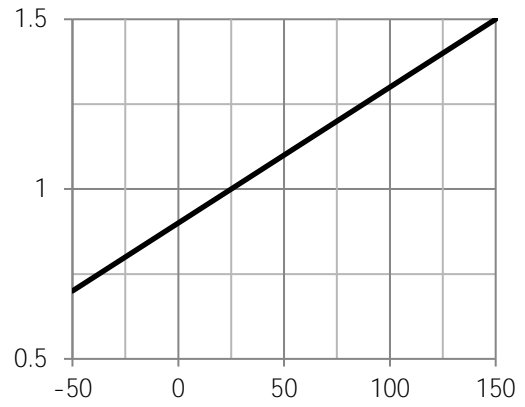


Fig.10 Gate Charge Waveform

Fig.11 Switching Time Measurement Circuit

Fig.12 Gate Charge Waveform



(SOT23)

Unit mm

