

The ZMS040N10HB combines advanced SGT
MOSFET

$T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_{D@T_C=25}$	160	A
	$I_{D@T_C=75}$	121	A
	$I_{D@T_C=100}$	100	A
Pulsed Drain Current	I_{DM}	480	A
Total Power Dissipation	$P_D@T_C=25$	96	W
Total Power Dissipation	$P_D@T_A=25$	3.1	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}	200	mJ

Thermal resistance

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	1.3	$^{\circ}C/W$
Thermal resistance, junction - ambient	R_{thJA}	-	-	40	$^{\circ}C/W$
Soldering temperature, wave soldering for 10s	T_{sold}	-	-	265	$^{\circ}C$

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	2.0		4.0	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Static Drain-source On Resistance		$V_{GS} = 10V, I_D = 25A$		4.2	5.2	m
Forward Transconductance	g_{FS}	$V_{DS} = 25V, I_D = 10A$		28		S
Source-drain voltage	V_{SD}	$I_S = 25A$			1.28	V

Dynamic Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Input capacitance	C_{iss}	$V_{GS} = 0V, V_{DS} = 25V$ $f = 1MHz$	-	4028	-	pF
Output capacitance	C_{oss}		-	1787	-	
Reverse transfer capacitance	C_{rss}		-	91	-	
Total gate charge	Q_g	$V_{DD} = 25V$	-	48	-	nC
Gate - Source charge	Q_{gs}	$I_D = 8A$	-	16	-	
Gate - Drain charge	Q_{gd}	$V_{GS} = 10V$	-	4.9	-	
Body Diode Reverse Recovery Time	t_{rr}	$I_F = 20A,$ $di/dt = 100A/\mu s$		TBD		nS
Body Diode Reverse Recovery Charge	Q_{rr}	$I_F = 20A,$ $di/dt = 100A/\mu s$		TBD		nC

Note: ;

