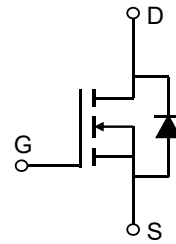


Description

Features

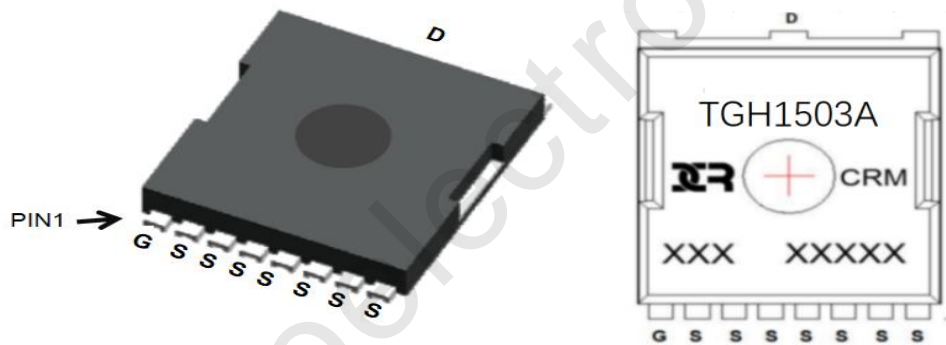
- 150V, 210A
 $R_{DS(ON)}$ Typ = 3.47mΩ @ $V_{GS} = 10V$
- Advanced Split Gate Trench Technology
- Excellent $R_{DS(ON)}$ and Low Gate Charge
- 100% UIS TESTED!
- 100% ΔV_{ds} TESTED!



Schematic Diagram

Application

- Load Switch
- PWM Application
- Power Management



Marking and Pin Assignment

Package Marking and Ordering Information

Device	Marking	Package	Outline	Reel Size	Reel (pcs)	Per Carton (pcs)
CRMTGH1503A	CRMTGH1503A	TOLL	TAPING	13"	2000	10000

Absolute Maximum Ratings (@ $T_J = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Value	Units
V_{DS}	Drain-to-Source Voltage	150	V
V_{GS}	Gate-to-Source Voltage	±20	V
I_D	Continuous Drain Current	$T_C = 25^\circ\text{C}$	210
		$T_C = 100^\circ\text{C}$	126
I_{DM}	Pulsed Drain Current ⁽¹⁾	840	A
E_{AS}	Single Pulsed Avalanche Energy ⁽²⁾	1024	mJ
P_D	Power Dissipation	$T_C = 25^\circ\text{C}$	417
$R_{\theta JC}$	Thermal Resistance, Junction to Case	0.3	°C/W
T_J, T_{STG}	Junction & Storage Temperature Range	-55 to 150	°C

Electrical Characteristics ($T_J = 25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Off Characteristics						
V _{(BR)DSS}	Drain-Source Breakdown Voltage	I _D = 250μA, V _{GS} = 0V	150	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 150V, V _{GS} = 0V	-	-	1.0	μA
I _{GSS}	Gate-Body Leakage Current	V _{DS} = 0V, V _{GS} = ±20V	-	-	±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250μA	2	3.2	4	V
R _{DS(ON)}	Static Drain-Source ON-Resistance ⁽³⁾	V _{GS} = 10V, I _D = 20A	-	3.47	4.5	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} = 0V, V _{DS} = 25V, f = 1MHz	-	6213	-	pF
C _{oss}	Output Capacitance		-	4019	-	pF
C _{rss}	Reverse Transfer Capacitance		-	237	-	pF
Q _g	Total Gate Charge	V _{GS} = 0 to 10V V _{DS} = 75V, I _D = 80A	-	90	-	nC
Q _{gs}	Gate Source Charge		-	25	-	nC
Q _{gd}	Gate Drain("Miller") Charge		-	20	-	nC
Switching Characteristics						
t _{d(on)}	Turn-On DelayTime	V _{GS} = 10V, V _{DD} = 75V I _D = 80A, R _{GEN} = 3Ω	-	20	-	ns
t _r	Turn-On Rise Time		-	40	-	ns
t _{d(off)}	Turn-Off DelayTime		-	59	-	ns
t _f	Turn-Off Fall Time		-	45	-	ns
Drain-Source Diode Characteristics and Max Ratings						
I _S	Maximum Continuous Drain to Source Diode Forward Current	V _{GS} = 0V, I _S = 20A	-	-	210	A
I _{SM}	Maximum Pulsed Drain to Source Diode Forward Current		-	-	840	A
V _{SD}	Drain to Source Diode Forward Voltage		-	-	1.2	V
trr	Body Diode Reverse Recovery Time		-	103	-	ns
Qrr	Body Diode Reverse Recovery Charge		I _F = 80A, di/dt = 100A/us	-	431	-

- Notes:
1. Repetitive Rating: Pulse Width Limited by Maximum Junction Temperature.
 2. E_{AS} condition: Starting $T_J = 25^\circ\text{C}$, $V_{DD} = 75\text{V}$, $V_G = 10\text{V}$, $R_G = 25\Omega$, $L = 0.5\text{mH}$, $I_{AS} = 64\text{A}$
 3. Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 0.5\%$.

Test Circuit

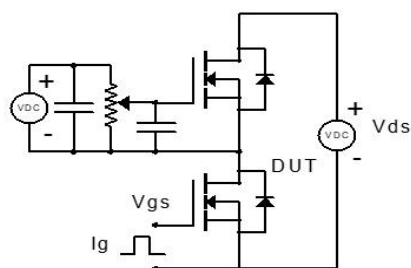


Figure 1: Gate Charge Test Circuit & Waveform

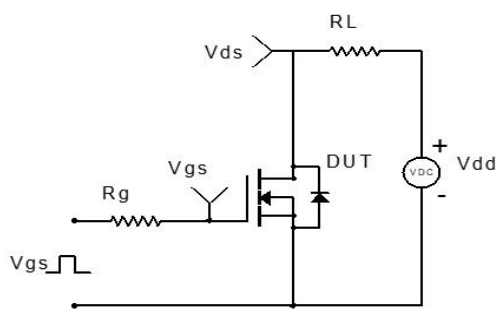


Figure 2: Resistive Switching Test Circuit & Waveform

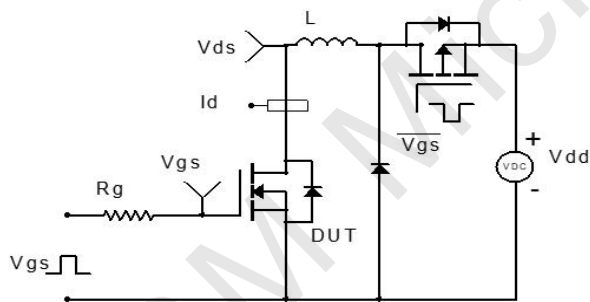


Figure 3: Unclamped Inductive Switching Test Circuit & Waveform

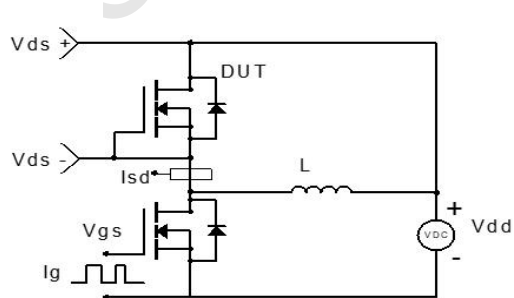
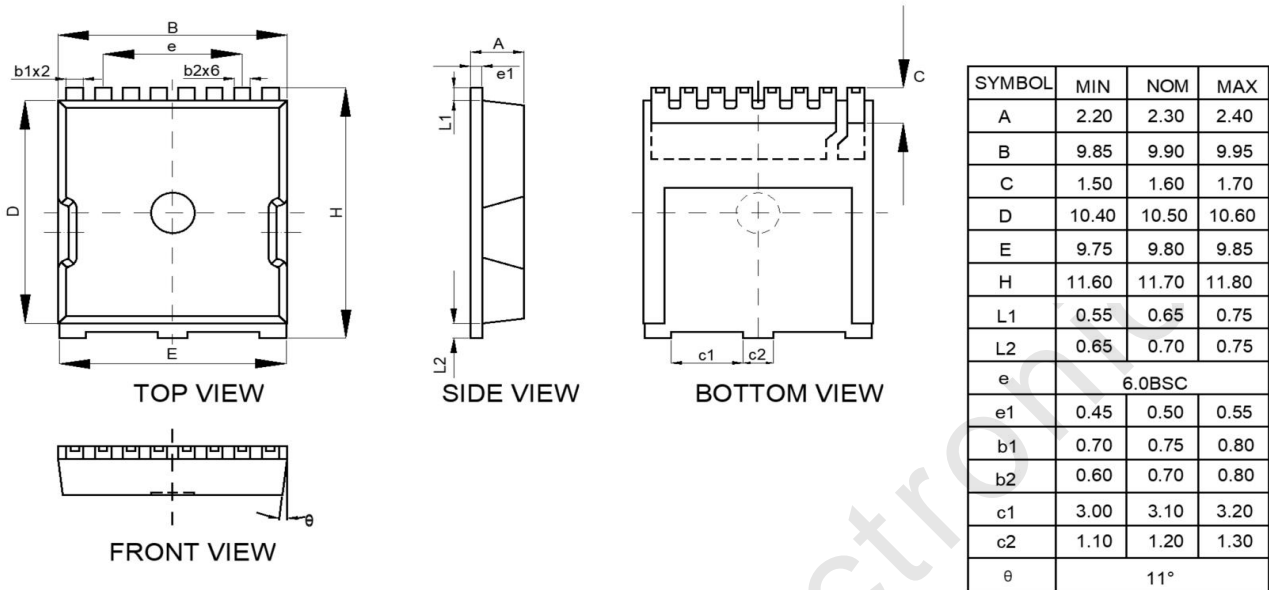


Figure 4: Diode Recovery Test Circuit & Waveform

Package Mechanical Data(TOLL)



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