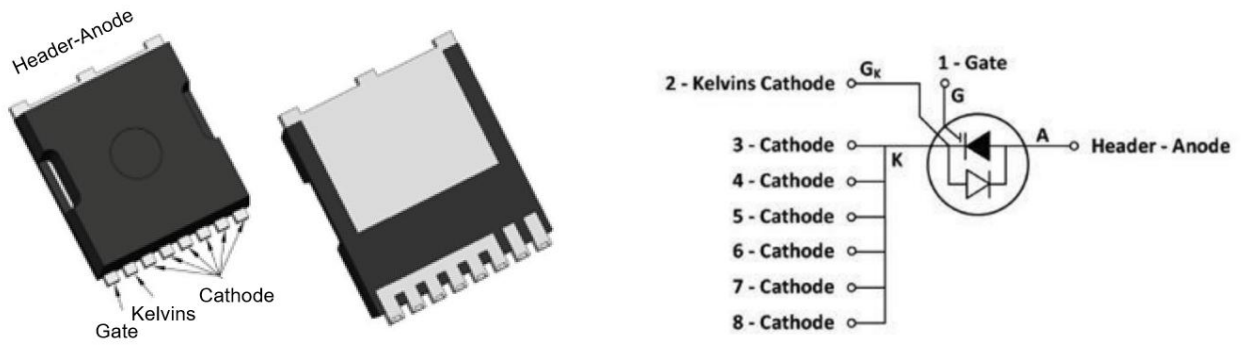


Views and internal schematic diagrams: TOLL-2L



Product Description

XM35N25T2 is a voltage-driven, small-sized, high-power solid-state pulse switch. This product features a high blocking voltage, strong forward and reverse pulse peak current capability, and simple drive requirements. It can be used in pulse power applications such as capacitor discharge units and high-power pulse power supplies.

Specification

Product Mode	Quality Grades	Parameter	Value	Unit	Package	Packaging
XM35N25T2	Industrial	V_{DRM}	2500	V	TOLL-2L	Tape and Reel
		$I_{TSM@25^{\circ}C}$	3500	A		
		$V_{GK(th)}@Typ.$	6	V		

Maximum tolerable value (test condition, $T_j=25^{\circ}C$)

Parameter	Value	Unit
Maximum Anode-Cathode Breakdown Voltage	2500	V
Maximum Off-State Voltage Rise Rate	1000	V/ μ s
Maximum Single Forward Peak Current (Half-Cycle Sine Pulse Width=500ns)	4000	A
Maximum Repetitive Forward Peak Current (Half-Cycle Sine Pulse Width=500ns)	3500	A
Maximum capacitor discharge integral I^2t	5.6	A^2S
Maximum On-State Current Rise Rate	50	kA/ μ s
Maximum Gate-to-Cathode Voltage (Continuous)	± 20	V
Maximum Gate-to-Cathode Voltage (Peak)	± 25	V
Pin Soldering Temperature (During Soldering, 5 s) (T_h)	260	$^{\circ}C$
Junction Temperature Range(T_j)	-55~125	$^{\circ}C$
Storage Temperature Range(T_{Stg})	-55~150	$^{\circ}C$

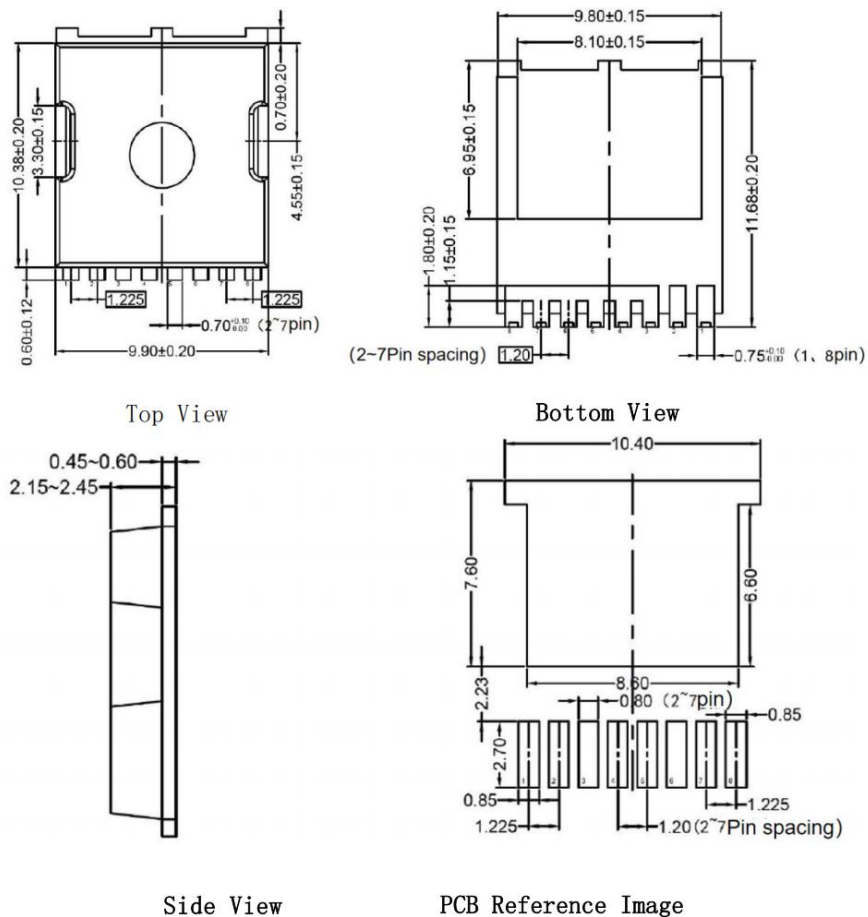
Recommended working conditions

Parameter	Value	Unit
Recommended working temperature range(T_A)	-55~85	$^{\circ}C$

Electrical parameters (Test conditions, $T_j=25^\circ\text{C}$)

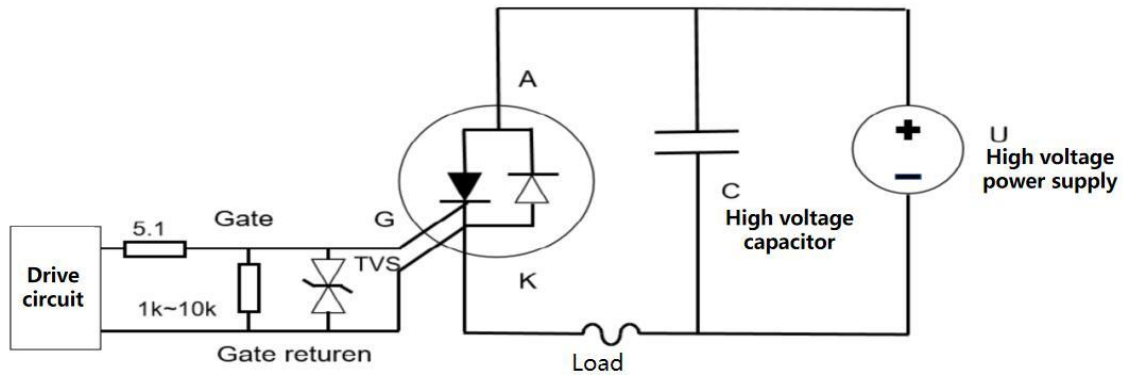
Parameter	Symbol	Value			Unit	Note/Test Conditions
		Min.	Typ.	Max.		
Anode-Cathode Breakdown Voltage	$V_{(BR)AK}$	2500	-	-	V	$V_{GK}=0V, I_{AK(off)}=1mA$
Anode-Cathode Leakage	$I_{AK(off)}$	-	-	10	μA	$V_{GK}=0V, V_{AK}=1800V$
Gate-Cathode Leakage Current	I_{GK}	-	-	± 100	nA	$V_{GK}=\pm 30V, V_{AK}=0V$
Gate-Cathode Threshold Voltage	$V_{GK(th)}$	4	-	6	V	$V_{AK}=V_{GK}, I_{AK}=1mA$
Anode-Cathode Saturation Voltage Drop	V_{AKsat}	-	-	10	V	$V_{GK}=12V, I_{AK}=10A$
Body diode forward voltage drop	V_{KA}	-	-	3	V	$V_{GK}=0V, V_{KA}=10V$
Current Rate of Change	di/dt	-	50	-	kA/ μs	$C=0.22\mu F, L=18nH,$
Peak Anode Current	I_p	-	3500	-	A	$V_{GK}=12V, V_{AK}=1600V$

Packaging Instructions: TOLL-2L



Note: All dimensions are in mm

Typical Pulse Discharge Test Circuit



Notes :

1. Do not use the discharge voltage as a reference for application; it is recommended to design according to the EFI current requirements. The discharge current is related to the stray inductance and capacitance of the circuit and the internal resistance of high-speed power switches. The maximum continuous pulse discharge peak safe current for this high-speed switch is 3500A;
2. The maximum single pulse safe discharge I^2t is 5.6 A²S. Exceeding 5.6 A²S poses a risk of damage.