

## TIC225 Series(8A TRIACS)

**8A RMS**

**TO-220 PACKAGE**

**400V to 800V Off-State Voltage**

**Max  $I_{GT}$  of 5mA(Quadrant 1)**

### ***ABSOLUTE RATING***

Symbol	Parameter		Value	Units
$V_{DRM}$	Repetitive peak off-state voltage	TIC225D TIC225M TIC225S TIC225N	400 600 700 800	V
$I_{T(RMS)}$	Continuous on-state current at(or below) 70 case temperature		8	A
$I_{TSM}$	Peak on-state surge current full-sine-wave		70	A
$I_{TSM}$	Peak on-state surge current half-sine-wave		80	A
$I_{GM}$	Peak gate current		$\pm 1$	A
$P_{GM}$	Peak gate power dissipation(pulse width 200 $\mu$ s)		2.2	W
$P_{G(AV)}$	Average gate power dissipation		0.9	W
$T_C$	Operating case temperature range		-40 ~ 110	
$T_{stg}$	Storage temperature		-40 ~ 125	

## THERMAL RESISTANCE

Symbol	Parameter	Value	Unit
$R_{th(j-c)}$	Junction to case thermal resistance	2.5	/W
$R_{tj(j-a)}$	Junction to free air thermal resistance	62.5	/W

## ELECTRICAL CHARACTERISTICS at 25 °C case temperature

Symbol	Testing conditions	Min.	Typ.	Max.	Unit
$I_{GT}$	$V_{supply}=+12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	0.8	5	mA
	$V_{supply}=+12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	-4.5	-20	
	$V_{supply}=-12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	-3.5	-10	
	$V_{supply}=-12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	11.7	30	
$V_{GT}$	$V_{supply}=+12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	0.7	2	V
	$V_{supply}=+12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	-0.7	-2	
	$V_{supply}=-12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	-0.8	-2	
	$V_{supply}=-12V, R_L=10\Omega, t_{p(g)} > 20\mu s$	-	0.9	2	
$I_H$	$V_{supply}=+12V, I_G=0, \text{Initiating } I_T=100mA$	-	3	20	mA
	$V_{supply}=-12V, I_G=0, \text{Initiating } I_T=-100mA$	-	-4.7	-20	
$V_{TM}$	$I_{TM}=\pm 12A, I_G=50mA$	-	-	$\pm 1.7$	V
$I_{DRM}$	$V_D=\text{rated } V_{DRM}, I_G=0, T_C=110^\circ C$	-	$\pm 1.6$	$\pm 2.1$	mA
$dv/dt$	$V_{DRM}=\text{rated } V_{DRM}, I_{TRM}=\pm 3.5A, T_C=110^\circ C$	-	$\pm 50$	-	V/ $\mu s$