



TXN692

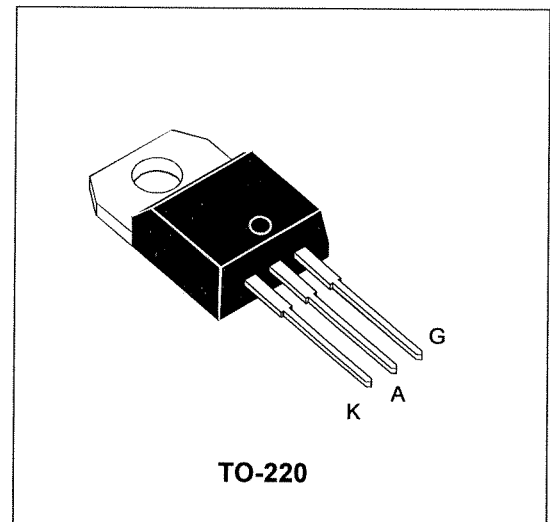
SCR

FEATURES

- # ITRMS = 20A
- # IGT < 25mA
- # HIGH SURGE PERFORMANCE
- # Insulation voltage : 2500V RMS
(UL recognized file E81734)

DESCRIPTION

The TXN692 Silicon Controlled Rectifier uses a high performance glass passivated technology. This SCR is suitable for crowbar protection or to drive inductive load.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter		Value	Unit
$I_{T(RMS)}$	RMS on-state current (180° conduction angle)	$T_c = 85\text{ }^{\circ}\text{C}$	20	A
$I_{T(AV)}$	Average on-state current (180° conduction angle)	$T_c = 85\text{ }^{\circ}\text{C}$	13	A
I_{TSM}	Non repetitive surge peak on-state current (T_J initial = 25°C)	$t_p = 8.3\text{ ms}$ $t_p = 10\text{ ms}$	260 250	A
I^2t	I^2t value for fusing	$t_p = 10\text{ ms}$	310	A^2s
di/dt	Critical rate of rise of on-state current $I_G = 100\text{ mA}$ $di_G/dt = 1\text{ A} / \mu\text{s}$		100	$\text{A}/\mu\text{s}$
T_{stg} T_J	Storage temperature range Operating junction temperature range		-40+150 -40+125	$^{\circ}\text{C}$
T_I	Maximum lead temperature for soldering during 10s at 4.5mm from case.		260	$^{\circ}\text{C}$

Symbol	Parameter	TYN692	Unit
V_{DRM} V_{RRM}	Repetitive peak off-state voltage $T_J = 125^{\circ}\text{C}$	800	V

THERMAL RESISTANCES

Symbol	Parameter	Value	Unit
Rth (j-a)	Junction to ambient	60	°C/W
Rth (j-c)	Junction to case for DC	2.5	°C/W

GATE CHARACTERISTICS

$$P_{G(AV)} = 1 \text{ W} \quad P_{GM} = 10 \text{ W (tp = 20}\mu\text{s)} \quad I_{FGM} = 4 \text{ A (tp = 20}\mu\text{s)} \quad V_{RGM} = 5 \text{ V}$$

ELECTRICAL CHARACTERISTICS

Symbol	Test conditions				Value	Unit
I_{GT}	$V_D = 12 \text{ V (DC)}$	$RL = 33 \text{ Ohm}$	$T_j = 25^\circ\text{C}$	MAX	25	mA
V_{GT}	$V_D = 12 \text{ V (DC)}$	$RL = 33 \text{ Ohm}$	$T_j = 25^\circ\text{C}$	MAX	1.3	V
V_{GD}	$V_D = V_{DRM}$	$RL = 3.3 \text{ kOhm}$	$T_j = 125^\circ\text{C}$	MIN	0.2	V
I_H	$I_T = 100 \text{ mA}$	Gate open	$T_j = 25^\circ\text{C}$	MAX	40	mA
I_L	$I_G = 1.2 \times I_{GT}$		$T_j = 25^\circ\text{C}$	MAX	90	mA
V_{TM}	$I_{TM} = 50 \text{ A}$	$tp = 380 \mu\text{s}$	$T_j = 25^\circ\text{C}$	MAX	1.4	V
I_{DRM}	$V_D = V_{DRM}$		$T_j = 25^\circ\text{C}$	MAX	10	μA
I_{RRM}	$V_R = V_{RRM}$		$T_j = 125^\circ\text{C}$	MAX	2	mA
dV/dt	$V_D = 67\% V_{DRM}$	Gate open	$T_j = 125^\circ\text{C}$	MIN	500	V/ μs

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