

LSCR20 (Chip Size: 5.5×5.5 mm)

20A Thyristor High Voltage, Phase Control SCR Chip

Features

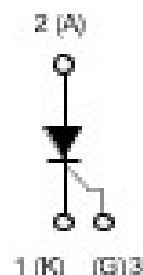
- Easy control peak current at charger power up to reduce passive / electromechanical components

Applications

- On-board and off-board EV / HEV battery chargers
- Renewable energy inverters

Description

The LSCR20 high voltage series of silicon controlled rectifiers are specifically designed for medium power switching and phase control applications.



MAJOR RATINGS AND CHARACTERISTICS			
PARAMETER	TEST CONDITIONS	VALUES	UNITS
$I_{T(AV)}$	Sinusoidal waveform	20	A
I_{RMS}		30	
V_{RRM}/V_{DRM}		1600	V
I_{TSM}		300	A
V_T	20 A, $T_J = 25\text{ }^\circ\text{C}$	1.4	V
T_J		-40 to +125	$^\circ\text{C}$

ABSOLUTE MAXIMUM RATINGS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum on-state voltage drop	V_{TM}	20 A, $T_J = 25\text{ }^\circ\text{C}$	1.4	V
Maximum reverse and direct leakage current	I_{RM}/I_{DM}	$T_J = 25\text{ }^\circ\text{C}$	$V_R = \text{rated } V_{RRM}/V_{DRM}$	0.5
		$T_J = 125\text{ }^\circ\text{C}$		10
Maximum holding current	I_H	Anode supply = 6 V, resistive load, initial $I_T = 1\text{ A}$, $T_J = 25\text{ }^\circ\text{C}$	150	mA
Maximum latching current	I_L	Anode supply = 6 V, resistive load, $T_J = 25\text{ }^\circ\text{C}$	200	
Maximum rate of rise of turned-on current	di/dt		150	A/ μs
Maximum required DC gate current to trigger	I_{GT}	Anode supply = 6 V, resistive load, $T_J = -10\text{ }^\circ\text{C}$	50	mA
		Anode supply = 6 V, resistive load, $T_J = 25\text{ }^\circ\text{C}$	45	
		Anode supply = 6 V, resistive load, $T_J = 125\text{ }^\circ\text{C}$	20	
Maximum required DC gate voltage to trigger	V_{GT}	Anode supply = 6 V, resistive load, $T_J = -10\text{ }^\circ\text{C}$	2.5	V
		Anode supply = 6 V, resistive load, $T_J = 25\text{ }^\circ\text{C}$	2.0	
		Anode supply = 6 V, resistive load, $T_J = 125\text{ }^\circ\text{C}$	1.0	
Maximum DC gate voltage not to trigger	V_{GD}	$T_J = 125\text{ }^\circ\text{C}$, $V_{DRM} = \text{rated value}$	0.25	mA
Maximum DC gate current not to trigger	I_{GD}		2.0	