

# LSCR175 (Chip Size: 19.5×19.5 mm)

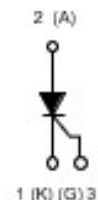
## 175A Thyristor High Voltage, Phase Control SCR Chip

### Features

- Hermetic glass-metal seal
- Designed and qualified for industrial level

### Applications

- DC motor controls
- Controlled DC power supplies
- AC controllers



### MAJOR RATINGS AND CHARACTERISTICS

PARAMETER	TEST CONDITIONS	VALUES	UNITS
$I_{T(AV)}$		175	A
	$T_C$	80	°C
$I_{T(RMS)}$		285	A
$I_{TSM}$	50 Hz	3150	
	60 Hz	4000	
$V_{DRM}/V_{RRM}$		1600	V
$T_J$		-40 to +125	°C

### ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average on-state current at case temperature	$I_{T(AV)}$	180° conduction, half sine wave	175	A
			80	°C
Maximum RMS on-state current	$I_{RMS}$	DC at 79 °C case temperature	285	A
Maximum peak, one-cycle non-repetitive surge current	$I_{TSM}$	t = 10 ms	3150	
		t = 8.3 ms	4000	
		t = 10 ms	3500	
		t = 8.3 ms	3660	
Maximum on-state voltage	$V_{TM}$	$I_{pk} = 570$ A, $T_J = T_J$ maximum, $t_p = 10$ ms sine pulse	1.4	V
Maximum holding current	$I_H$	$T_J = 25$ °C, anode supply 12 V resistive load	600	mA
Typical latching current	$I_L$		1000	
Maximum non-repetitive rate of rise of turned-on current	di/dt	Gate drive 20 V, 20 Ω, $t_r \leq 1$ μs $T_J = T_J$ maximum, anode voltage $\leq 80$ % $V_{DRM}$	300	A/μs

### TRIGGERING

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES		UNITS	
			TYP.	MAX.		
DC gate current required to trigger	$I_{GT}$	Maximum required gate trigger/current/voltage are the lowest value which will trigger all units 12 V anode to cathode applied	$T_J = -40$ °C	130	-	mA
			$T_J = 25$ °C	30	80	
			$T_J = 125$ °C	35	-	
DC gate voltage required to trigger	$V_{GT}$	Maximum required gate trigger/current/voltage are the lowest value which will trigger all units 12 V anode to cathode applied	$T_J = -40$ °C	2.0	-	V
			$T_J = 25$ °C	1.2	2.5	
			$T_J = 125$ °C	0.9	-	
DC gate current not to trigger	$I_{GD}$		10		mA	
DC gate voltage not to trigger	$V_{GD}$	$T_J = T_J$ maximum	0.25		V	