

# LSCR115 (Chip Size: 13.8×13.8 mm)

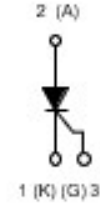
## 115A Thyristor High Voltage, Phase Control SCR Chip

### Features

- High current and high surge ratings
- Hermetic ceramic housing
- 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
$I_{T(AV)}$		115	A
	$T_C$	90	°C
$I_{T(RMS)}$		172	A
$I_{TSM}$	50 Hz	2070	
	60 Hz	2180	
$V_{DRM}/V_{RRM}$		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	115	A	
			90	°C	
Maximum RMS on-state current	$I_{T(RMS)}$	DC at 83 °C case temperature	172	A	
Maximum peak, one-cycle non-repetitive surge current	$I_{TSM}$	t = 10 ms	No voltage reapplied		2070
		t = 8.3 ms	100 % $V_{RRM}$ reapplied		2180
		t = 10 ms			Sinusoidal half wave, initial $T_J = T_J$ maximum
		t = 8.3 ms	1830		
Maximum on-state voltage	$V_{TM}$	$I_{pk} = 350$ 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 6 V resistive load	200	mA	
Typical latching current	$I_L$		400		
Maximum non-repetitive rate of rise of turned-on current	dI/dt	Gate drive 20 V, 20 $\Omega$ , $t_r \leq 1$ $\mu$ s $T_J = T_J$ maximum, anode voltage $\leq 80$ % $V_{DRM}$	300	A/ $\mu$ s	

### TRIGGERING

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES		UNITS
			TYP.	MAX.	
DC gate current required to trigger	$I_{GT}$	$T_J = -40$ °C	180	-	mA
		$T_J = 25$ °C	30	80	
		$T_J = 140$ °C	40	-	
DC gate voltage required to trigger	$V_{GT}$	$T_J = -40$ °C	2.5	-	V
		$T_J = 25$ °C	1.6	2	
		$T_J = 140$ °C	1	-	
DC gate current not to trigger	$I_{GD}$	$T_J = T_J$ maximum	6.0		mA
DC gate voltage not to trigger	$V_{GD}$		0.25		V