

LSCR75 (Chip Size: 11.5×11.5 mm)

75A Thyristor High Voltage, Phase Control SCR Chip

Features

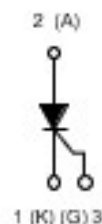
- 150 °C maximum operating junction temperature

Applications

Typical usage is in input rectification crowbar (soft start) and AC switch motor control, UPS, welding, and battery charge.

Description

LSCR75 high voltage series of silicon controlled rectifiers are specifically designed for medium power switching, and phase control applications. The glass passivation technology used, has reliable operation up to 150 °C junction temperature.



MAJOR RATINGS AND CHARACTERISTICS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Peak repetitive reverse voltage	V_{RRM}/V_{DRM}		1600	V
On-state voltage	V_T	80 A, $T_J = 125\text{ °C}$, typical	1.4	
Average rectified forward current	$I_{T(AV)}$		75	A
Maximum continuous RMS on-state current	I_{RMS}		126	
Non-repetitive peak surge current	I_{TSM}		1350	
Maximum operating junction and storage temperature range	T_J, T_{Stg}		-40 to +125	°C

ABSOLUTE MAXIMUM RATINGS						
PARAMETER	SYMBOL	TEST CONDITIONS		TYP.	MAX.	UNITS
Maximum average on-state current	$I_{T(AV)}$	$T_C = 113\text{ °C}$, 180° conduction half sine wave		-	75	A
Maximum continuous RMS on-state current as AC switch	$I_{T(RMS)}$			-	126	
Peak, one-cycle non-repetitive surge current	I_{TSM}	10 ms sine pulse, rated V_{RRM} applied	Initial $T_J = T_{J\text{maximum}}$	-	1350	
		10 ms sine pulse, no voltage reapplied		-	1000	
Rate of rise of turned-on current	di/dt	$T_J = 125\text{ °C}$, $V_R = 1000\text{ V}$, $I_T = 100\text{ A}$, $I_{gt} = 450\text{ mA}$, $V_{GT} = 2.5\text{ V}$		-	500	A/ μs
Holding current	I_H	Anode supply = 6 V, resistive load, $T_J = 25\text{ °C}$		-	200	mA
Latching current	I_L			-	400	
Reverse and direct leakage current	I_{RRM}/I_{DRM}	$T_J = 25\text{ °C}$		50	200	μA
		$T_J = 125\text{ °C}$		10	60	mA
Required DC gate voltage to trigger	V_{GT}	$T_J = 25\text{ °C}$	Anode supply = 6 V resistive load	-	1.5	V
Required DC gate to trigger	I_{GT}	$T_J = 25\text{ °C}$	Anode supply = 6 V resistive load	30	60	mA
DC gate voltage not to trigger	V_{GD}	$T_J = 125\text{ °C}$, $V_{DRM} = 80\%$ rated value		-	0.20	V
DC gate current not to trigger	I_{GD}			-	5	mA