

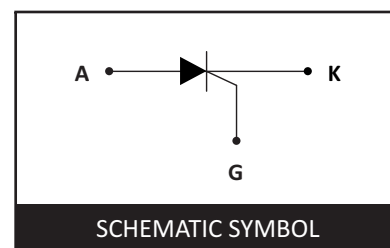
55A SERIES STANDARD SILICON CONTROLLED RECTIFIERS

DESCRIPTION

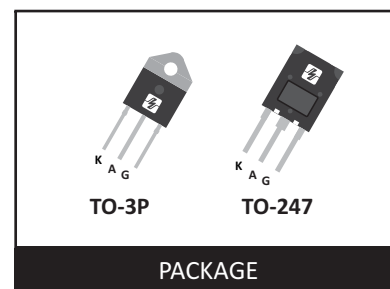
The CS30 Series SCR is suitable to fit modes of control found in applications such as voltage regulation circuits for motorbikes, over-voltage crowbar protection, motor control circuits in power tools and kitchen aids, inrush current limiting circuits, capacitive discharge ignition. The insulated fullpack package allows a back to back configuration.

FEATURES

- Repetitive Peak Off-State Voltage : 1200V
- R.M.S On-State Current ($I_{T(RMS)} = 55\text{ A}$)
- Low On-State Voltage (1.8V(Max.)@ I_{TM})
- RoHS Compliant



SCHEMATIC SYMBOL



PACKAGE

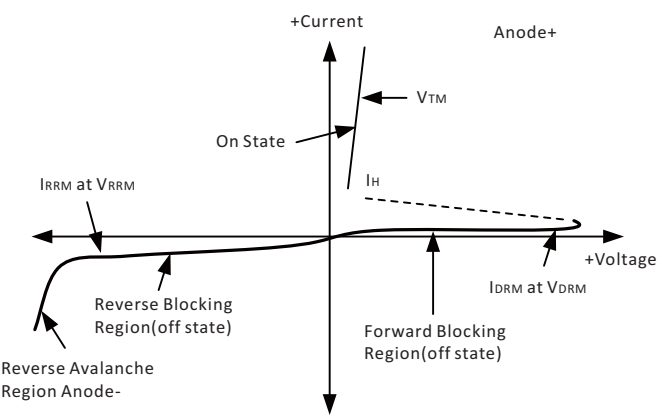
ABSOLUTE MAXIMUM RATINGS ($T_J = 25^\circ\text{C}$ UNLESS OTHERWISE SPECIFIED)

Symbol	Parameter			Value	Unit
V_{DRM}	Repetitive Peak off -State Voltage			1200	V
V_{RRM}	Repetitive Peak Reverse Voltage			1200	V
$I_{T(RMS)}$	RMS on-state current	$T_c = 109^\circ\text{C}$		55	A
$I_{T(AV)}$	Average on-state current	$T_c = 109^\circ\text{C}$		40	A
I_{TSM}	Non repetitive surge peak on-state current	$t_p = 8.3\text{ ms}$	$T_J = 25^\circ\text{C}$	520	A
		$t_p = 10\text{ ms}$		550	
I^2t	I^2t Value for fusing	$t_p = 10\text{ ms}$	$T_J = 25^\circ\text{C}$	1350	A^2S
di/dt	Critical rate of rise of on-state current $I_G = 2 \times I_{GT}$, $t_r \leq 100\text{ ns}$	$F = 60\text{ Hz}$	$T_J = 125^\circ\text{C}$	150	$\text{A}/\mu\text{s}$
I_{GM}	Peak gate current	$t_p = 20\text{ }\mu\text{s}$	$T_J = 125^\circ\text{C}$	1.5	A
$P_{G(AV)}$	Average gate power dissipation	$T_J = 125^\circ\text{C}$		2.0	W
T_{stg}	Storage junction temperature range			- 40 to + 150	$^\circ\text{C}$
T_J	Operating junction temperature range			- 40 to + 125	

ELECTRICAL CHARACTERISTICS ($T_C = 25\text{ }^{\circ}\text{C}$ UNLESS OTHERWISE NOTED)

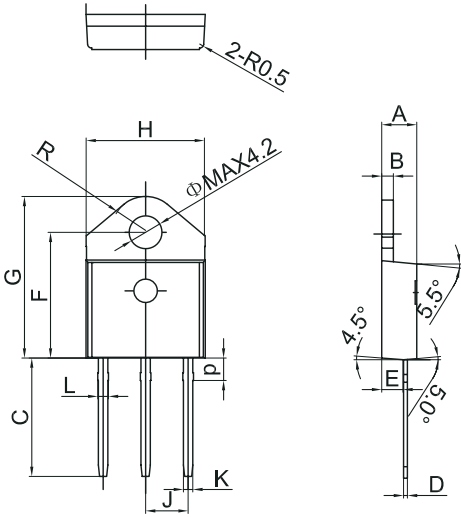
Symbol	Test Conditions		Min.	Typ.	Max.	Unit
I_{GT}	$V_D = 12\text{ V}$ $R_L = 30\Omega$		3	-	50	mA
V_{GT}			-	-	1.5	V
V_{GD}	$V_D = V_{DRM}$ $R_{GK} = 1.0\text{ kohm}$	$T_j = 125^{\circ}\text{C}$	0.25	-	-	V
I_H	$I_T = 1.0\text{ A}$		-	-	80	mA
I_L	$I_G = 1.2 I_{GT}$		-	-	100	mA
dv/dt	$V_D = 67\% V_{DRM}$ Gate open	$T_j = 125^{\circ}\text{C}$	1000	-	-	V/ μs
V_{TM}	$I_{TM} = 80\text{ A}$ $t_p = 380\text{ }\mu\text{s}$	$T_j = 25^{\circ}\text{C}$	-	-	1.8	V
I_{DRM}	$V_D = V_{DRM}$ $V_R = V_{RRM}$	$T_j = 25^{\circ}\text{C}$	-	-	10	μA
I_{RRM}		$T_j = 125^{\circ}\text{C}$	-	-	5.0	mA

VOLTAGE CURRENT CHARACTERISTIC OF SCR

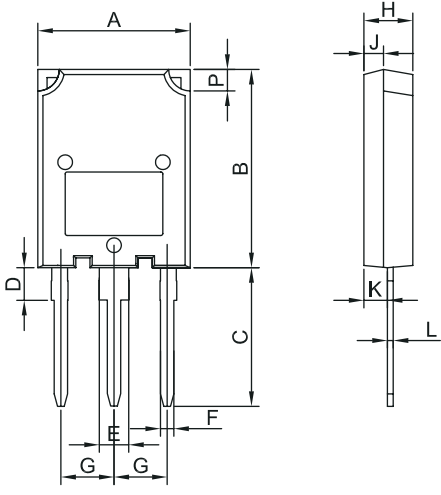
PARAMETER	SYMBOL	
Peak Repetitive OffStat Forward Voltage	V_{DRM}	
Peak Forward Blocking Current	I_{DRM}	
Peak Repetitive OffState Reverse Voltage	V_{RRM}	
Peak Reverse Blocking Current	I_{RRM}	
Peak OnState Voltage	V_{TM}	
HoldingCurrent	I_H	

PACKAGE MECHANICAL DATA

TO-3P

	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	4.40	4.60	0.173	0.181
	B	1.45	1.55	0.057	0.061
	C	14.35	15.60	0.565	0.614
	D	0.50	0.75	0.020	0.028
	E	2.70	2.90	0.106	0.114
	F	15.80	16.50	0.622	0.650
	G	20.40	21.10	0.815	0.831
	H	15.10	15.50	0.594	0.610
	J	5.40	5.65	0.213	0.222
	K	1.20	1.40	0.047	0.055
	L	1.35	1.50	0.053	0.059
	P	2.80	3.00	0.110	0.118
	R	4.60TYP		0.181TYP	

TO-247

	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	15.10	16.10	0.595	0.632
	B	19.80	20.80	0.780	0.818
	C	13.80	14.80	0.544	0.582
	D	3.00	4.00	0.118	0.157
	E	2.75	3.35	0.108	0.132
	F	1.30	1.50	0.051	0.059
	G	5.10	5.80	0.201	0.228
	H	4.50	5.50	0.178	0.216
	J	1.45	2.15	0.058	0.084
	K	1.90	2.80	0.075	0.110
	L	0.55	0.80	0.022	0.032
	P	2.00	2.40	0.079	0.095

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