

BI-DIRECTIONAL THYRISTOR**Features**

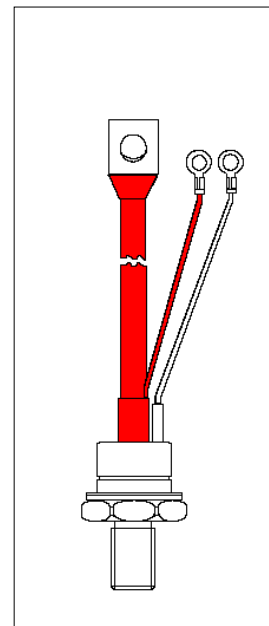
- Hermetic ceramic -metal seal
- high dv/dt
- tested according to IEC standards
- High surge capability
- Compression Bonded Encapsulation for heavy duty operations such as severe thermal cycling

100A**Typical Applications**

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

Major Ratings and Characteristics

Parameters	KS100N12	Units
$I_{T(AV)}$	100	A
@ T_c	90	°C
$I_{T(RMS)}$	155	A
I_{TSM} @ 50Hz	2.7	A
@ 60Hz	2.83	A
$I^2 t$ @ 50Hz	36.4	KA ² s
@ 60Hz	33.2	KA ² s
V_{DRM} / V_{RRM}	400 to 1600	V
T_q typical	300	µs
T_J range	- 40 to 125	°C



GREEGOO**KS100N12... SERIES****ELECTRICAL SPECIFICATIONS****Voltage Ratings**

Type number	Voltage Code	V_{RRM} / V_{DRM} , maximum repetitive peak reverse voltage V	V_{RSM} , maximum non-repetitive peak rev. voltage V	I_{RRM} / I_{DRM} max. @ $T_J = T_{J \text{ max.}}$ mA
KS100N	02	200	300	20
	06	600	700	
	10	1000	1100	
	12	1200	1300	
	15	1500	1600	

On-state Conduction

Parameter	KS100N	Units	Conditions		
$I_{T(AV)}$ Maximum average on-state current @ Case temperature	100	A	180° conduction, half sine wave		
	90	°C			
$I_{(RMS)}$ Maximum RMS on-state current	175	A	180° conduction, half sine wave @ $T_C = 80^\circ\text{C}$		
I_{TSM} Maximum peak, one-cycle non-repetitive surge current	2700	A	t = 10ms	No voltage	Sinusoidal half wave, Initial $T = T_{\text{max.}}$
	2830		t = 8.3ms	reapplied	
	2270		t = 10ms	100% V_{RRM}	
	2380		t = 8.3ms	reapplied	
$I^2 t$ Maximum $I^2 t$ for fusing	36.4	$\text{KA}^2 \text{s}$	t = 10ms	No voltage	
	33.2		t = 8.3ms	reapplied	
	25.8		t = 10ms	100% V_{RRM}	
	23.5		t = 8.3ms	reapplied	
$I^2 \sqrt{t}$ Maximum $I^2 \sqrt{t}$ for fusing	364	$\text{KA}^2 \sqrt{\text{s}}$	t = 0.1 to 10ms, no voltage reapplied		
V_{TM} Maximum on-state or forward	1.52	V	pk = 600A, $T_J = 25^\circ\text{C}$, t p = 10ms sine pulse		
I_H Maximum holding current	600	mA	$T_J = 25^\circ\text{C}$, anode supply 12V resistive load		
I_L Typical latching current	1000				

Switching

Parameter	KS100N	Units	Conditions
di/dt Max. non-repetitive rate of rise of turned-on current	500	A/ μs	Gate drive 20V, 20 Ω , t r $\leq 1\mu\text{s}$ $T_J = T_{J \text{ max.}}$, anode voltage $\leq 80\% V_{DRM}$
t _d ical delay time	2.0	μs	Gate current 1A, di _g /dt = 1A/ μs $V_d = 0.67\% V_{DRM}$, $T_J = 25^\circ\text{C}$
T _q pical turn-off time	100	μs	$I_{TM} = 300\text{A}$, $T_J = T_{J \text{ max.}}$, di/dt = 20A/ μs , $V_R = 50\text{V}$ dv/dt = 20V/ μs , Gate 0V 100 Ω , t _p = 500 μs

GREEGOO

KS100N12... SERIES

Blocking

Parameter	KS100N	Units	Conditions
dv/dt Maximum critical rate of rise of off-state voltage	500	V/ μ s	T _J = T _J max linear to 80% rated V _{DRM}
I _{DRM} Max. peak reverse and off-state leakage current	20	mA	T _J = T _J max, rated V _{DRM} /V _{RRM} applied

Triggering

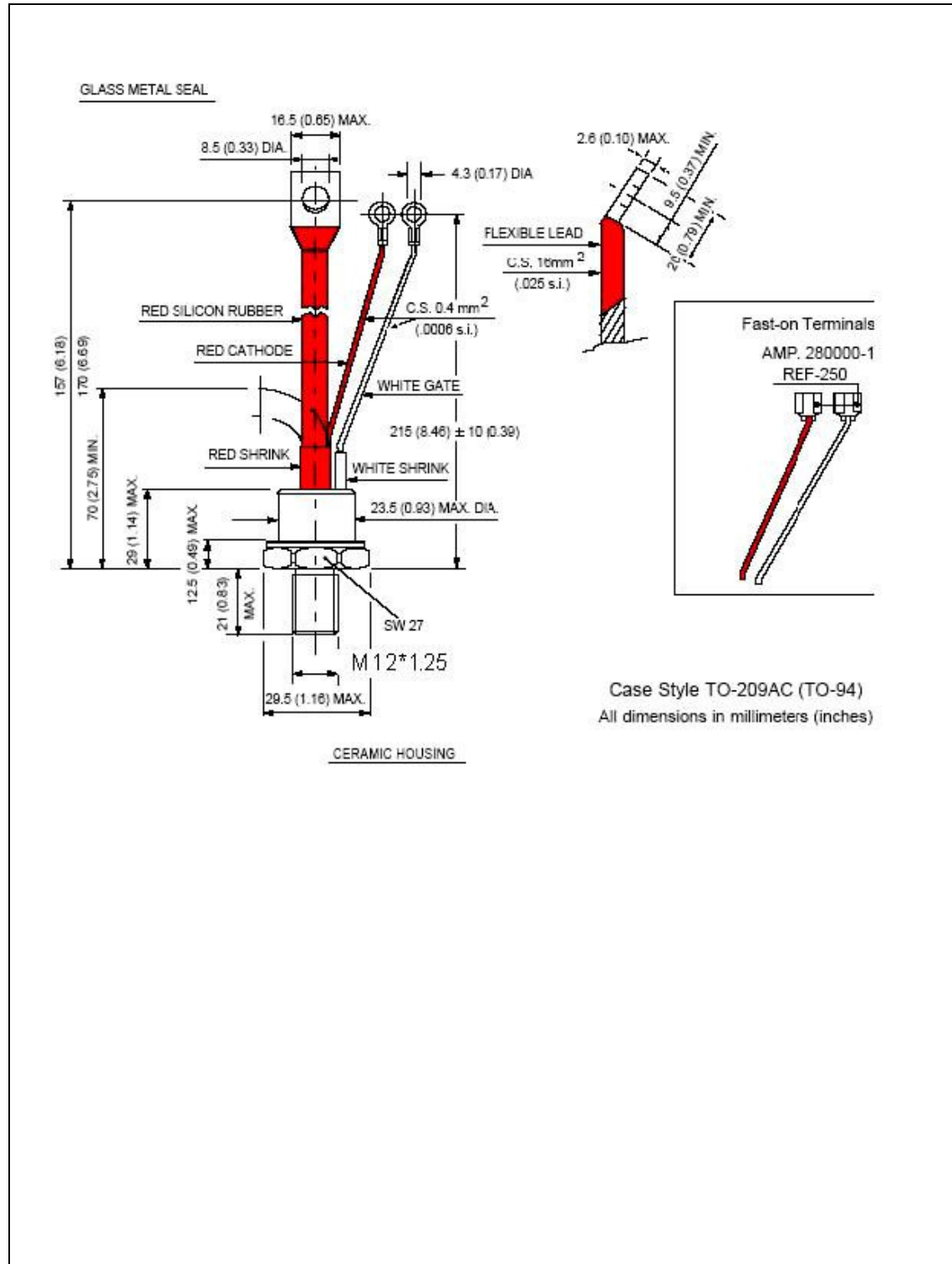
Parameter	KS100N	Units	Conditions	
P _{GM} Maximum peak gate power	5	W	T _J = T _J max, t _p ≤ 5ms	
P _{G(AV)} Maximum average gate power	1.0		T _J = T _J max, f = 50Hz, d% = 50	
I _{GM} Max. peak positive gate current	2.0	A	T _J = T _J max, t _p ≤ 5ms	
+V _{GM} Maximum peak positive gate voltage	20	V	T _J = T _J max, t _p ≤ 5ms	
-V _{GM} Maximum peak negative gate voltage	5.0			
I _{GT} DC gate current required to trigger	TYP.	MAX.	T _J = - 40°C T _J = 25°C T _J = 125°C Max. required gate trigger/ current/ voltage are the lowest value which will trigger all units 12V anode-to-cathode applied	
	180	-		mA
	90	150		
V _{GT} DC gate voltage required to trigger	2.9	-	T _J = - 40°C T _J = 25°C T _J = 125°C	
	1.8	30		V
	1.2	-		
I _{GD} DC gate current not to trigger	8	mA	T _J = T _J max Max. gate current/ voltage not to trigger is the max. value which will not trigger any unit with rated V anode-to-cathode applied	
V _{GD} DC gate voltage not to trigger	0.25	V		

Thermal and Mechanical Specification

Parameter	KS100N	Units	Conditions
T _J Max. operating temperature range	-40 to 125	°C	
T _{stg} Max. storage temperature range	-40 to 150		
R _{thJC} Max. thermal resistance, junction to case	0.195	K/W	DC operation
R _{thCS} Max. thermal resistance, case to heatsink	0.08		Mounting surface, smooth, flat and greased
T Mounting torque, ± 10%	15.5(137)	Nm	Non lubricated threads
	14(120)	(lbf-in)	Lubricated threads
wt Approximate weight	118	g	

GREGGO**KS100N12... SERIES**

Outline Table



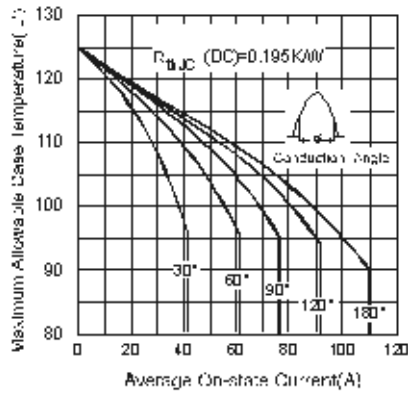


Fig.1-Current Ratings Characteristics

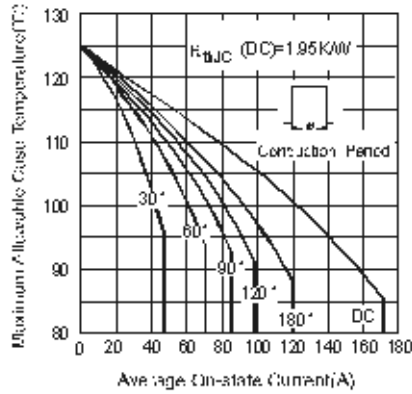


Fig.2-Current Ratings Characteristics

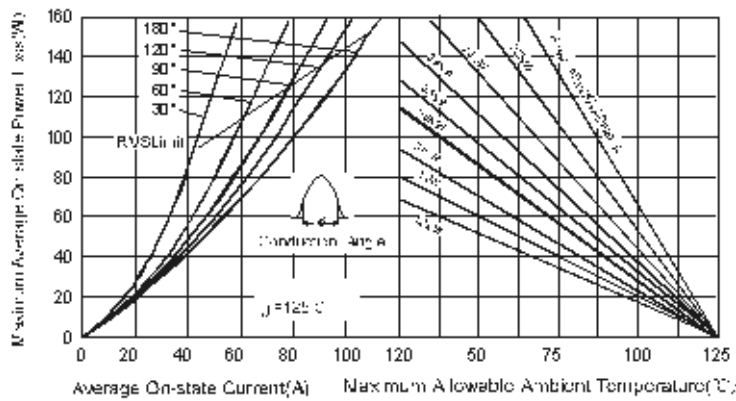


Fig.3-On-state Power Loss Characteristics

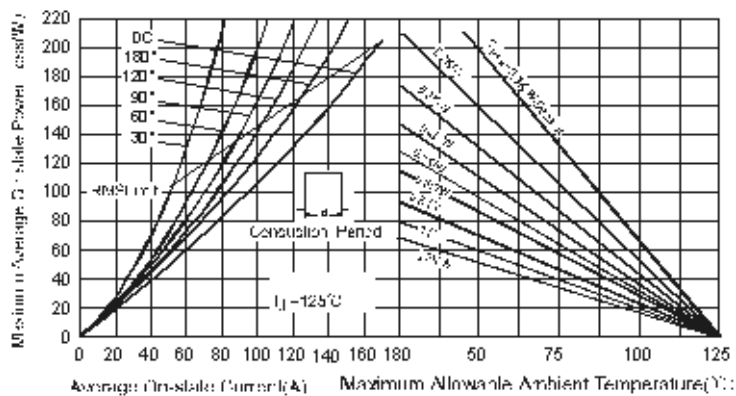


Fig.4-On-state Power Loss Characteristics

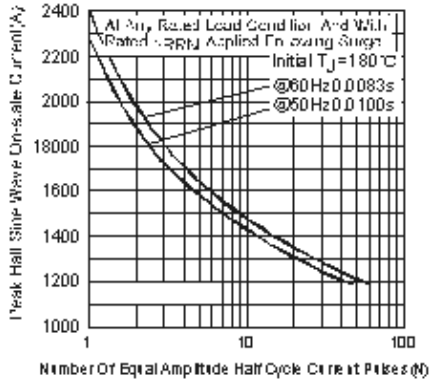


Fig.5-Maximum Non-Repetitive Surge Current

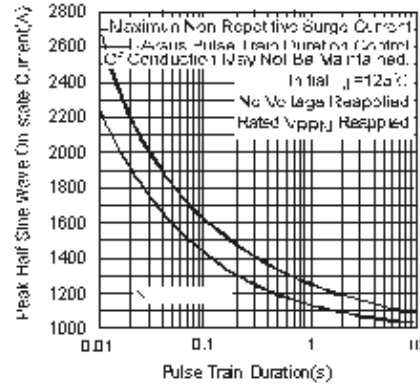


Fig.6-Maximum Non-Repetitive Surge Current

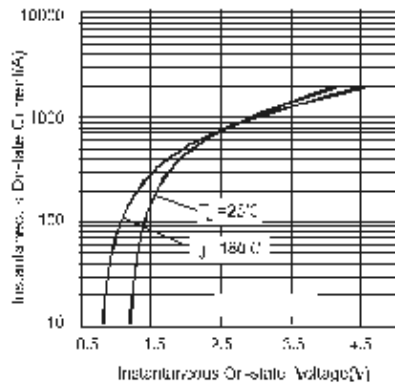


Fig.7-On-state Voltage Drop Characteristics

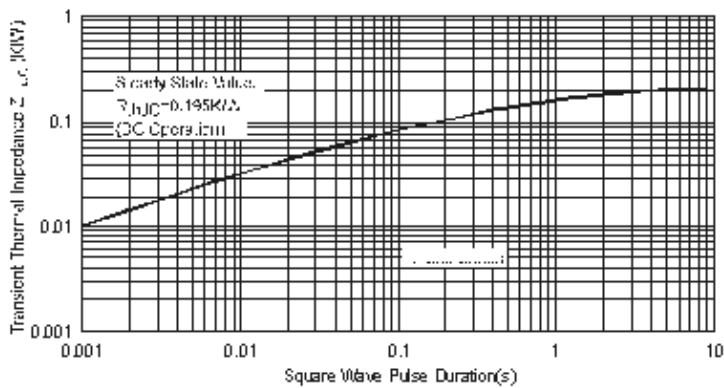


Fig.8-Thermal Impedance $Z_{th(jc)}$ Characteristics

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [Triacs](#) category:

Click to view products by [GREGOO](#) manufacturer:

Other Similar products are found below :

[CTA08-1000CW](#) [CTB24-800BW](#) [CTA08-1000C](#) [CTA12-800BWPT](#) [CTA16-1000B](#) [CTB24-800B](#) [BT137-600-0Q](#) [5615](#) [OT415Q](#) [2N6075A](#)
[NTE5629](#) [NTE5688](#) [CTB08-400CW](#) [D31410](#) [BTA416Y-600B.127](#) [T2535T-8I](#) [KS100N12](#) [OT408,135](#) [BTA04-600B](#) [BTA06-600BRG](#)
[BTA06-800BWRG](#) [BTA08-600BRG](#) [BTA08-800B](#) [BT136-600,127](#) [MAC97A6,116](#) [Z0103NN,135](#) [BT137-600E,127](#) [BTB16-600CW3G](#)
[Z0109MN,135](#) [T825T-6I](#) [T1220T-6I](#) [NTE5638](#) [BT136X-600E,127](#) [MAC4DLM-1G](#) [BT134-600D,127](#) [BTA08-600BW3G](#) [NTE56008](#)
[NTE56017](#) [NTE56018](#) [NTE56059](#) [NTE5608](#) [NTE5609](#) [NTE5656](#) [NTE56020](#) [NTE56022](#) [NTE56024](#) [NTE56026](#) [NTE56028](#) [NTE56071](#)
[NTE5642](#)