HUAJING

ST600C…SERIES

DISC TYPE THYRISTOR

Features

- Metal case with ceramic insulator
- All diffused design, Center amplifying gate
- High surge current capabilities
- Guaranteed high dv/dt
- Guaranteed high di/dt
- Low thermal impedance
- High speed performance

600A

Typical Applications

- DC Motor control, AC controllers
- Controlled DC power supplies

Major Ratings and Characteristics

Parameters		ST600C	Units
$I_{T(AV)}$		600	A
	@ T_{hs}	65	°C
$I_{T(RMS)}$		942	A
	@ T_{hs}	25	°C
I_{TSM}	@ 50Hz	9000	A
	@ 60Hz	9420	A
I^2t	@ 50Hz	405	KA^{2}s
	@ 60Hz	370	KA^{2}s
V_{DRM}/V_{RRM}		1800	V
Tq	typical	150	µs
T_J	range	- 40 to 125	°C

HUAJING   **ST600C…SERIES**

ELECTRICAL SPECIFICATIONS

Voltage Ratings

Type number	Voltage Code	V_{RRM}, maximum repetitive peak reverse voltage V	V_{RSM}, maximum non-repetitive peak rev. voltage V	I_{DRM}/I_{RRM} max. @ $T_J = T_J$ max. mA
ST600C	04	400	500	40
	08	800	900	
	12	1200	1300	
	18	1800	1900	

On-state Conduction

	Parameter	ST600C	Units	Conditions		
$I_{T(AV)}$	Maximum average on-state current	600	A	180° conduction, half sine wave		
	@ Heatsink temperature	65	°C	Double side cooled		
$I_{(RMS)}$	Maximum RMS on-state current	942	A	DC@ 25°C heatsink temperature double side cooled		
I_{TSM},	Maximum peak, one-cycle non-repetitive surge current	9000	A	t = 10ms	No voltage reapplied	Sinusoidal half wave, Initial T = T max.
		9420		t = 8.3ms		
		7570		t = 10ms	100% V_{RRM} reapplied	
		7920		t = 8.3ms		
I^2t	Maximum I^2t for fusing	405	$KA^2 s$	t = 10ms	No voltage reapplied	
		370		t = 8.3ms		
		287		t = 10ms	100% V_{RRM} reapplied	
		262		t = 8.3ms		
$I^2\sqrt{t}$	Maximum $I^2\sqrt{t}$ for fusing	4050	$KA^2\sqrt{s}$	t = 0.1 to 10ms, no voltage reapplied		
V_{TM}	Max. peak on-state voltage	1.95	V	I_{TM}= 1884A, T_J =T_J max, t p = 10ms sine wave pulse		
I_H	Maximum holding current	600	mA	T_J = 25°C, I_T > 30A		
I_L	Typical latching current	1000		T_J = 25°C, V_A= 12V, Ra = 6&, I_G= 1A		

Switching

	Parameter	ST600C		Units	Conditions
di/dt	Maximum non repetitive rate of rise of turned-on current	1000		A/µs	T_J = T_J max, V_{DRM} = rated V_{DRM} I_{TM} = 2 x di/dt
t_d	Typical delay time	1.1		µs	T_J= 25°C, V_{DM} = rated V_{DRM}, I_{TM} = 50A DC, t_p= 1µs Resistive load Gate pulse: 10V, 5Ω source
		Min	Max		T_J = T_J max,I_{TM} =50 0A,commutating di/dt =40A/µs,
Tq	Max. turn-off time (*)	100	200		V_R = 50Vt_p = 500µs dv/dt :see table in device code

Blocking

	Parameter	ST600C	Units	Conditions
dv/dt	Maximum critical rate of rise of off-state voltage	500	V/µs	T_J = T_J max. linear to 80% V_{DRM}, higher value available on request
I_{DRM} I_{RRM}	Max. peak reverse and off-state leakage current	40	mA	T_J = T_J max, rated V_{DRM}/V_{RRM} applied

Triggering

	Parameter	ST600C	Units	Conditions
P_{GM}	Maximum peak gate power	10	W	T_J = T_J max, f = 50Hz, d% = 50
$P_{G(AV)}$	Maximum average gate power	2		
I_{GM}	Max. peak positive gate current	3	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	200	mA	T_J = 25°C, V_A = 12V, Ra = 6Ω
V_{GT}	DC gate voltage required to trigger	3	V	
I_{GD}	DC gate current not to trigger	10	mA	T_J = T_J max, rated V_{DRM} applied
V_{GD}	DC gate voltage not to trigger	0.25	V	

Thermal and Mechanical Specification

	Parameter	ST600C	Units	Conditions
T_J	Max. operating temperature range	-40 to 125	°C	
T_{stg}	Max. storage temperature range	-40 to 150		
R_{thJ-hs}	Max. thermal resistance, junction to case	0.09 0.04	K/W	DC operation single side cooled / DC operation double side cooled
R_{thC-hS} c	Max. thermal resistance, case to heatsink	0.02 0.01		DC operation single side cooled / DC operation double side cooled
T	Mounting torque, ± 10%	10	KN	
wt	Approximate weight	90	g	

Outline Table in MM
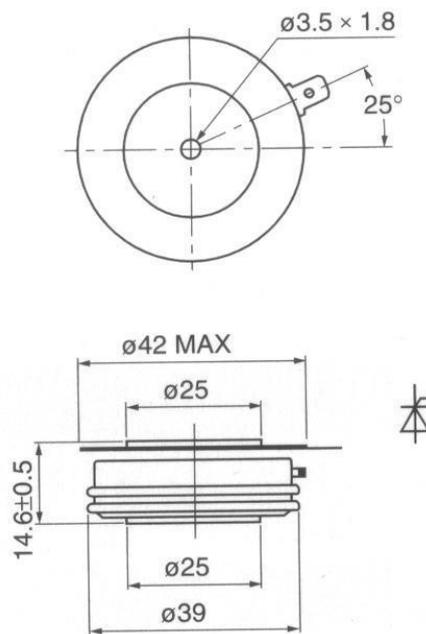
X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for SCRs *category:*

Click to view products by HUAJING *manufacturer:*

Other Similar products are found below :

NTE5428 T1500N16TOF VT T660N22TOF T720N18TOF T880N14TOF T880N16TOF TT162N16KOF-A TT162N16KOF-K TT330N16AOF VS-22RIA20 VS-2N685 057219R T1190N16TOF VT T1220N22TOF VT T201N70TOH T700N22TOF TT250N12KOF-K VS-110RKI40 NTE5427 NTE5442 T2160N28TOF VT TT251N16KOF-K VS-22RIA100 VS-16RIA40 TD250N16KOF-A VS-ST110S16P0 T930N36TOF VT T2160N24TOF VT T1190N18TOF VT T1590N28TOF VT 2N1776A T590N14TOF NTE5375 NTE5460 NTE5481 NTE5504 NTE5512 NTE5514 NTE5518 NTE5519 NTE5529 NTE5553 NTE5555 NTE5557 NTE5567 NTE5570 NTE5572 NTE5574 NTE5576 NTE5579