

8834750 TAG SEMICONDUCTORS LTD

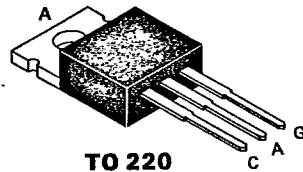
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DT-25-13

TAG SEMICONDUCTORS LTD

**S0602BH -
S0602NH SCR'S****6.0 A 200-800 V <200 μA**

The S0602 series silicon controlled rectifiers are high performance glass passivated PNP devices. These parts are intended for general purpose high voltage applications where gate sensitivity is required.



TO 220

Absolute Maximum Ratings $T_A = 25^\circ\text{C}$ unless otherwise noted

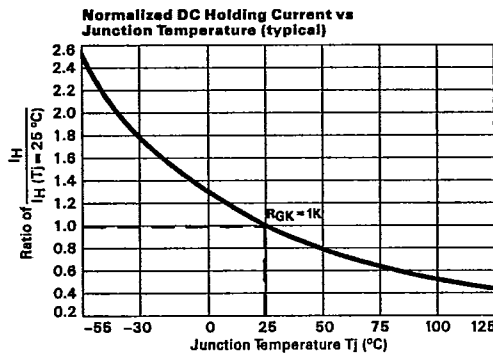
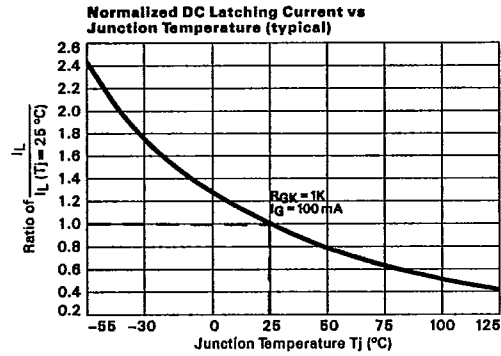
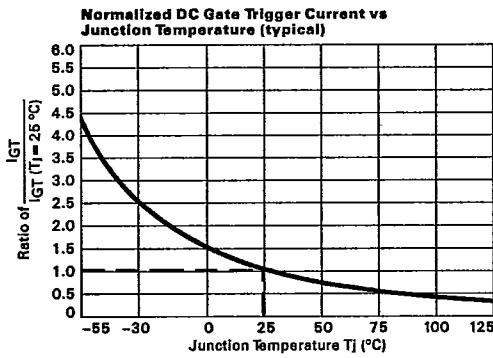
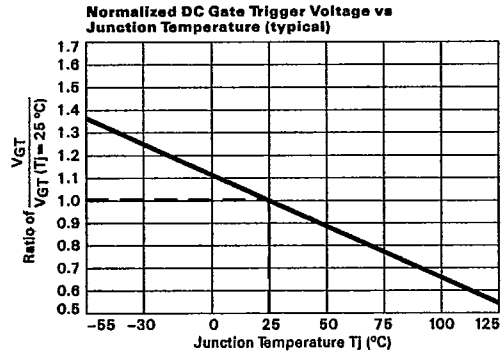
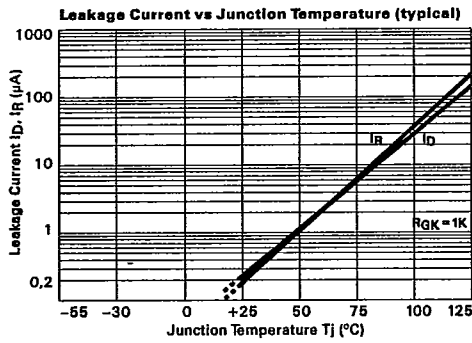
Parameter	Part Nr.	Symbol	Min.	Max.	Unit	Test Conditions
Repetitive Peak Off State Voltage	S0602BH	[V_{DRM}] [V_{RRM}]	200		V	[$T_J = -40^\circ\text{C}$ to 125°C] [$R_{GK} = 1\text{K}\Omega$]
	S0602DH		400		V	
	S0602MH		600		V	
	S0602NH		800		V	
On-State Current		$I_{T(RMS)}$	6.0		A	All Conduction Angles $T_C = 85^\circ\text{C}$
Average On-State Current		$I_{T(AV)}$	3.8		A	Half Cycle, $\Theta = 180^\circ$, $T_C = 85^\circ\text{C}$
Nonrept. On-State Current		I_{TSM}	65		A	Half Cycle, 60 Hz
Nonrept. On-State Current		I_{TSM}	60		A	Half Cycle, 50 Hz
Fusing Current		I^2t	18		A ² s	$t = 10\text{ ms}$, Half Cycle
Peak Reverse Gate Voltage		V_{GRM}	8		V	$I_{GR} = 50\ \mu\text{A}$
Peak Gate Current		I_{GM}	2		A	10 μs max.
Peak Gate Dissipation		P_{GM}	5		W	10 μs max.
Gate Dissipation		$P_{G(AV)}$	0.5		W	20 ms max.
Operating Temperature		T_J	-40	125	$^\circ\text{C}$	
Storage Temperature		T_{stg}	-40	125	$^\circ\text{C}$	
Soldering Temperature		T_{sld}		250	$^\circ\text{C}$	1.6 mm from case, 10 s max.

Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Min.	Max.	Unit	Test Conditions
Off-State Leakage Current	I_{DRM}/I_{RRM}	0.5		mA	@ $V_{DRM} + V_{RRM}$, $R_{GK} = 1\text{K}\Omega$, $T_J = 125^\circ\text{C}$
Off-State Leakage Current	I_{DRM}/I_{RRM}	5		μA	@ $V_{DRM} + V_{RRM}$, $R_{GK} = 1\text{K}\Omega$, $T_J = 25^\circ\text{C}$
On-State Voltage	V_T		2.45	V	at $I_T = 12\text{ A}$, $T_J = 25^\circ\text{C}$
On-State Threshold Voltage	$V_{T(TO)}$		1.15	V	$T_J = 125^\circ\text{C}$
On-State Slope Resistance	r_T		125	mΩ	$T_J = 125^\circ\text{C}$
Gate Trigger Current	I_{GT}		200	μA	$V_D = 7\text{ V}$
Gate Trigger Voltage	V_{GT}		2.0	V	$V_D = 7\text{ V}$
Holding Current	I_H		10	mA	$R_{GK} = 1\text{K}\Omega$
Latching Current	I_L		20	mA	$R_{GK} = 1\text{K}\Omega$
Critical Rate of Voltage Rise	dv/dt	5		V/μs	$V_D = .67 \times V_{DRM}$, $R_{GK} = 1\text{K}\Omega$, $T_J = 125^\circ\text{C}$
Critical Rate of Current Rise	di/dt	100		A/μs	$I_G = 10\text{ mA}$, $di_G/dt = 0.1\text{ A}/\mu\text{s}$, $T_J = 125^\circ\text{C}$
Gate Controlled Delay Time	t_{gd}		500	ns	$I_G = 10\text{ mA}$, $di_G/dt = 0.1\text{ A}/\mu\text{s}$
Commutated Turn-Off Time	t_q		100	μs	$T_C = 85^\circ\text{C}$, $V_D = .67 \times V_{DRM}$, $V_R = 35\text{ V}$, $I_T = I_T(AV)$
Thermal Resistance junction to case	$R_{\theta jc}$		4	K/W	
Thermal Resistance junction to amb.	$R_{\theta ja}$		60	K/W	

S06

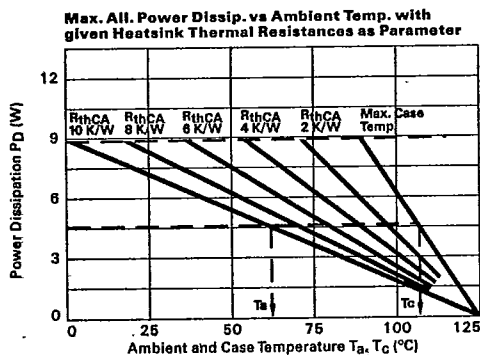
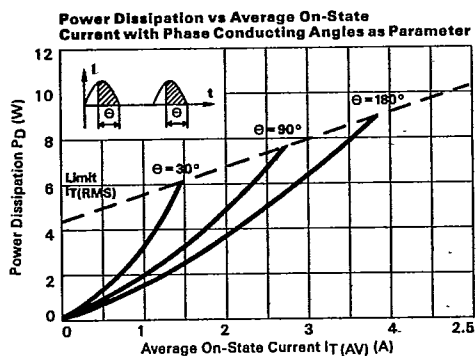
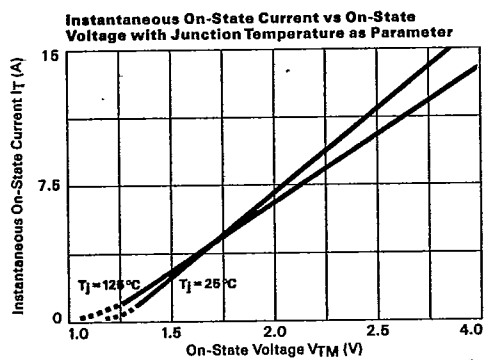
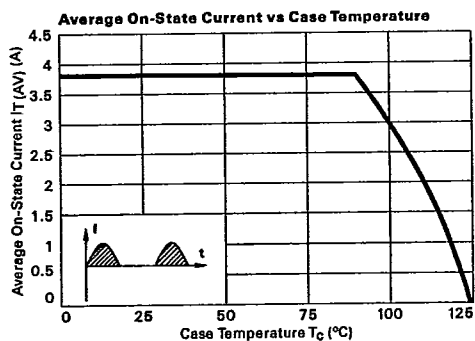
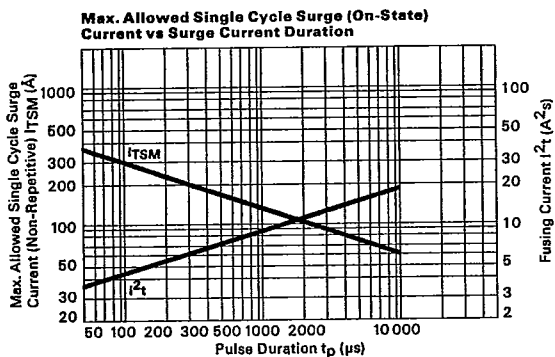
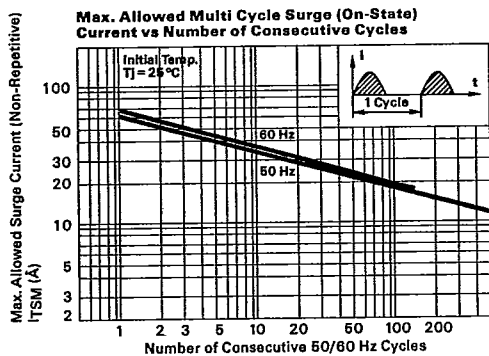
**Typical Characteristics
S06 - Chips**



S06

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**Typical Characteristics
S06 - Packaged Parts**



S06