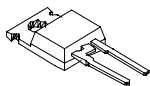
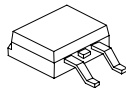


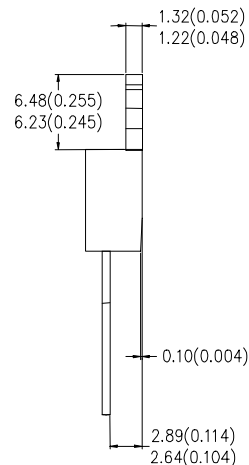
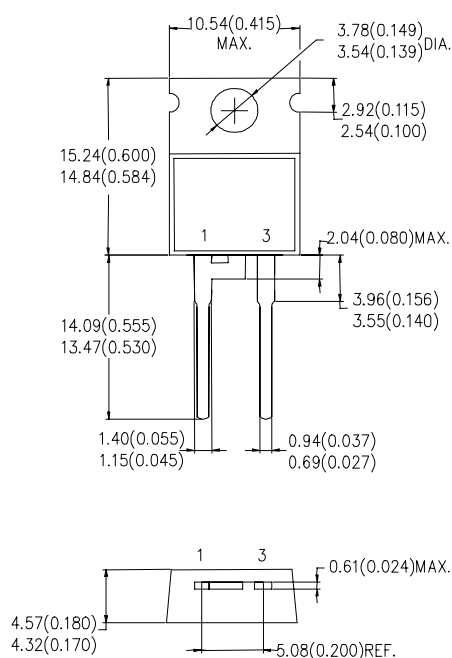
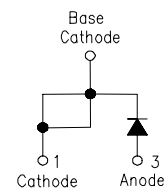
**SENSITRON****SEMICONDUCTOR****6TQ...
6TQ...S****TECHNICAL DATA
DATA SHEET****6TQ.../6TQ...S SCHOTTKY RECTIFIER****Applications:**

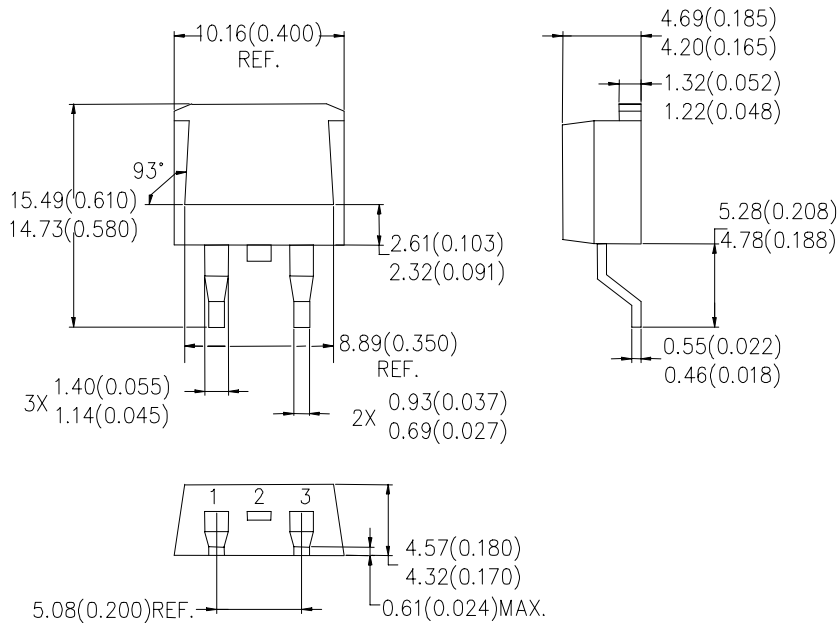
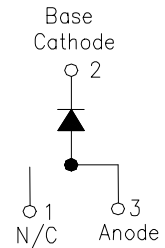
- Switching power supply
- Converters
- Free-Wheeling diodes
- Reverse battery protection

Features:

- 175° C T_J operation
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Low forward voltage drop
- High frequency operation
- Guard ring for enhanced ruggedness and long term reliability

Case Styles	
6TQ...  TO-220	6TQ...S  D²PAK

Mechanical Dimensions: In Inches / mm**TO-220AC**

**SENSITRON****SEMICONDUCTOR****6TQ...****6TQ...S****D²PAK****Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Inverse Voltage	V_{RWM}	-	35(6TQ035) 40(6TQ040) 45(6TQ045)	V
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C = 164^\circ\text{C}$, rectangular wave form	6	A
Max. Peak One Cycle Non-Repetitive Surge Current	I_{FSM}	8.3 ms, half Sine pulse	160	A
Non-Repetitive Avalanche Energy	E_{AS}	$T_J = 25^\circ\text{C}$, $I_{AS} = 1.20\text{ A}$, $L = 11.10\text{mH}$	8	mJ
Repetitive Avalanche Current	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A = 1.5 \times V_R$ typical	1.2	A

Electrical Characteristics:

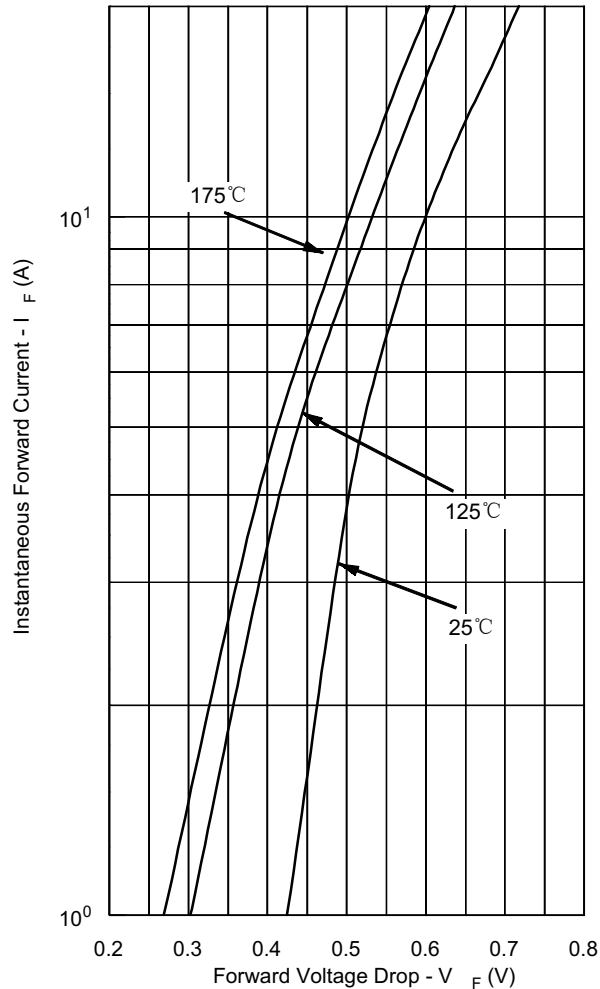
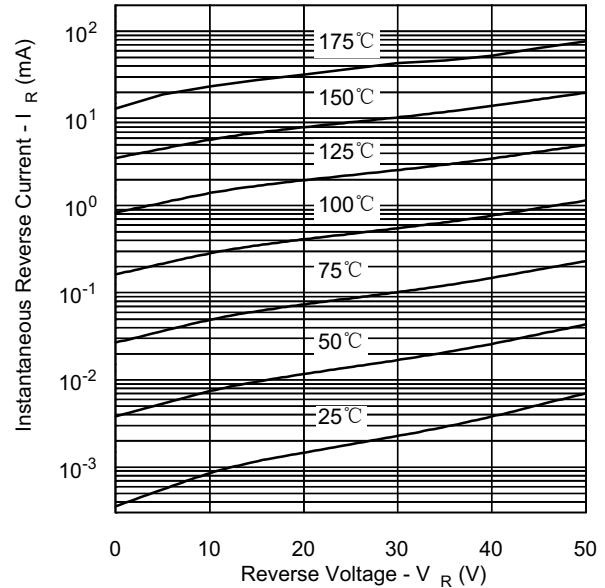
Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop	V_{F1}	@ 6 A, Pulse, $T_J = 25^\circ\text{C}$	0.60	V
	V_{F2}	@ 12 A, Pulse, $T_J = 25^\circ\text{C}$	0.73	V
		@ 6 A, Pulse, $T_J = 125^\circ\text{C}$	0.53	V
		@ 12 A, Pulse, $T_J = 125^\circ\text{C}$	0.64	V
Max. Reverse Current	I_{R1}	@ $V_R = \text{Rated } V_R$, Pulse, $T_J = 25^\circ\text{C}$	0.8	mA
	I_{R2}	@ $V_R = \text{Rated } V_R$, Pulse, $T_J = 125^\circ\text{C}$	7	mA
Max. Junction Capacitance	C_T	@ $V_R = 5\text{V}$, $T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	400	pF
Typical Series Inductance	L_S	Measured lead to lead 5 mm from package body	8.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs

**SENSITRON****SEMICONDUCTOR****6TQ...****6TQ...S**

* Pulse Width < 300μs, Duty Cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units
Max. Junction Temperature	T_J	-	-55 to +175	°C
Max. Storage Temperature	T_{stg}	-	-55 to +175	°C
Maximum Thermal Resistance Junction to Case	$R_{\theta JC}$	DC operation	2.2	°C/W
Typical Thermal Resistance, Case to Heat Sink	$R_{\theta CS}$	Mounting surface, smooth and greased	0.50	°C/W
Approximate Weight	wt	-	2	g
Mounting Torque	T_M	-	6 (min) 12 (max)	Kg-cm
Case Style	TO-220 D ² PAK (Suffix "s" for D ² PAK; "MBRB xxxx" for D ² PAK)			

Typical Forward Characteristics**Typical Reverse Characteristics****Typical Junction Capacitance**