

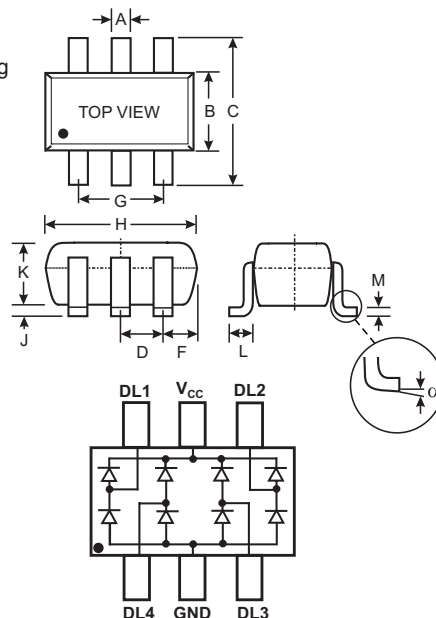
## QUAD DATA LINE SCHOTTKY BUS TERMINATOR

### Features

- Low Forward Voltage Drop
- Fast Switching
- Very High Density
- Ultra-Small Surface Mount Package PN Junction Guard Ring for Transient and ESD Protection
- Provide transient protection for high-speed data lines in accordance with:  
IEC61000-4-2 (ESD) 15kV (Air), 8kV (Contact)  
IEC61000-4-4 (EFT) 80A (tp = 5/50 ns)  
IEC61000-4-5 (Lightning) Class 3
- **Lead Free/RoHS Compliant (Note 5)**

### Mechanical Data

- Case: SOT-363
- Case material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please See Ordering Information, Note 7, on Page 2
- Polarity: See Diagram
- Marking Code: KST (See Page 2)
- Weight: 0.006 grams (approx.)



SOT-363		
Dim	Min	Max
A	0.10	0.30
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
F	0.30	0.40
H	1.80	2.20
J	—	0.10
K	0.90	1.00
L	0.25	0.40
M	0.10	0.25
α	0°	8°
All Dimensions in mm		

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	30	V
Forward Continuous Current (Note 1)	$I_{FM}$	200	mA
Non-Repetitive Peak Forward Surge Current @ t < 1.0s	$I_{FSM}$	600	mA
Power Dissipation (Note 1)	$P_d$	200	mW
Thermal Resistance Junction to Ambient Air (Note 1)	$R_{\theta JA}$	625	°C/W
Operating Temperature Range	$T_j$	-55 to +125	°C
Storage Temperature Range	$T_{STG}$	-65 to +125	°C

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage (Note 2)	$V_{(BR)R}$	30	—	—	V	$I_R = 100\mu A$
Forward Voltage	$V_F$	—	—	280 350 450 550 1000	mV	$I_F = 0.1mA, t_p < 300\mu s$ $I_F = 1.0mA, t_p < 300\mu s$ $I_F = 10mA, t_p < 300\mu s$ $I_F = 30mA, t_p < 300\mu s$ $I_F = 100mA, t_p < 300\mu s$
Reverse Current (Note 2)	$I_R$	—	—	2	$\mu A$	$V_R = 25V$
Total Capacitance	$C_T$	—	10.0 6.5	—	pF	$V_R = 0, f = 1.0MHz$ (Note 3) $V_R = 0, f = 1.0MHz$ (Note 4)
Reverse Recovery Time	$t_{rr}$	—	—	5.0	ns	$I_F = I_R = 10mA$ , $I_{rr} = 0.1 \times I_R, R_L = 100\Omega$

- Notes:
1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  2. Short duration test pulse used to minimize self-heating effect.
  3. At  $V_R = 0V$ ,  $DL(X)$  to  $V_{CC}$  or GND.
  4. At  $V_R = 0V$ , between Data Lines (e.g., DL1 and DL4).
  5. No purposefully added lead.

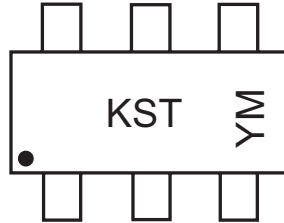
## Ordering Information (Note 6)

查询"QSBT40-7-F"供应商

Part Number	Packaging	Shipping
QSBT40-7-F	SOT-363	3000/Tape & Reel

Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

## Marking Information



KST = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

Date Code Key

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	M	N	P	R	S	T	U	V	W	X	Y	Z

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

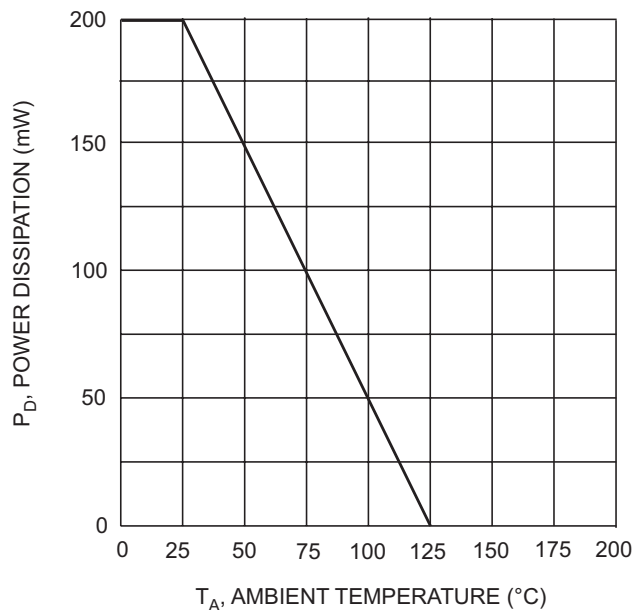


Fig. 1, Max Power Dissipation vs Ambient Temperature

## IMPORTANT NOTICE

[查询"QSBT40-7-F"供应商](#)

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

## LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.