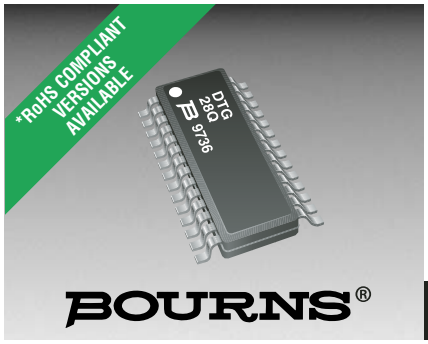


Features

- Lead free versions available
- RoHS compliant (lead free version)*
- Combined parallel port terminator and filter with an integrated diode array
- 17 termination channels per package
- Supports IEC 61000-4-2 ESD specification requirements*

Applications

- Bi-directional parallel port communications
- Personal computer peripherals with 1284 EPP/ECP interface
- Ideal for space-constrained designs

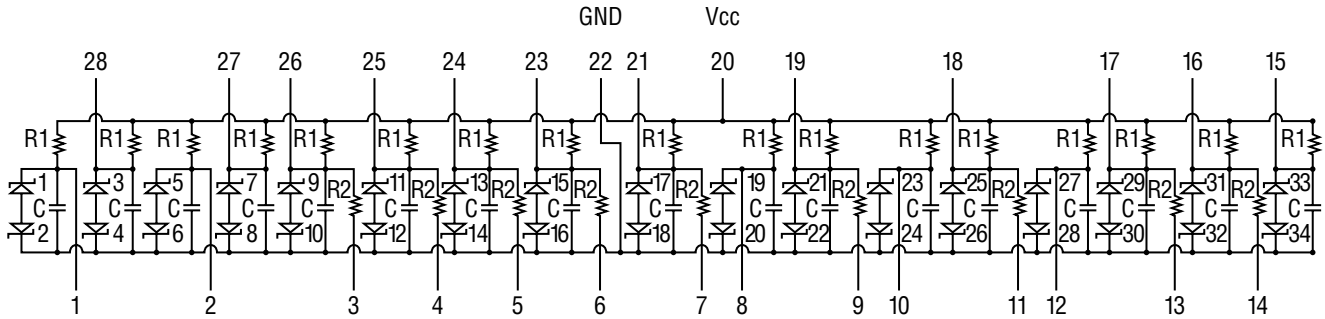
Thin Film On Silicon 2DTG Super Terminator/Filter with Integrated ESD Array

General Information

The Model 2DTG Series IEEE 1284 Terminator/Filter is a multi-functional single device interface for IEEE EPP/ECP designs. In addition to termination and filtering, the Model 2DTG offers ±8 KV contact discharge and ±15 KV air discharge (per Human Body model) of ESD protection and is specifically designed to meet the requirements of ESD system specification IEC 61000-4-2.

This highly integrated product is well-suited for use in space-constrained applications such as PC notebooks and motherboards, NT servers, engineering workstations, and portable battery powered devices. It is also useful in peripheral products which are designed to communicate through the EPP/ECP parallel port such as inkjet and laser printers, portable/removable drives, scanners, digital cameras, tape back-ups, LANs and other communication interfaces.

Package Schematic



Electrical & Environmental Characteristics

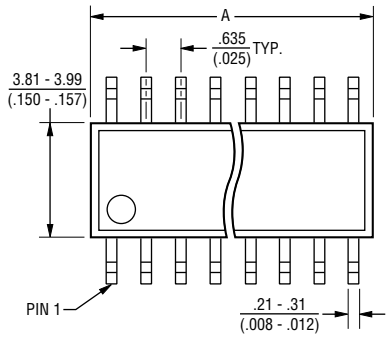
Electrical Characteristics	Symbol	Minimum	Nominal	Maximum	Unit
Resistor Tolerance				±10	%
Resistor Power Dissipation @ 70 °C				100	mW
Capacitor Tolerance				±20	%
Capacitor Breakdown Voltage		25	35		V
Maximum Operating Voltage	V_{CC}			6.0	V
Forward Voltage:					
@I_f = 1 mA	V_f			0.9	V
@I_f = 10 mA	V_f			1.5	V
Reverse Breakdown Voltage:					
@IR = 10 µA @ 70 °C	RV	6 ± 0.5			V
@IR = 1 µA @ 25 °C	RV	6 ± 0.5			V
Max. Leakage Current @ Max. V_{CC} @ 25 °C				1.0	µA
Signal Clamp Voltages:					
Positive Clamp				6.0	V
Negative Clamp				-6.0	V
Environmental Characteristics					
Operating Temperature	T_J	-55		+125	°C
Storage Temperature	T_{stg}	-65		+150	°C
Diode Power Rating			20		mW/diode
ESD Performance Withstand*:					
Contact Discharge		±8	±9		kV
Air Discharge		±15	±16		kV

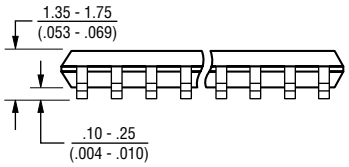
* Note: IEC 61000-4-2 ESD test performance is measured at the systems level and system designs, enclosure shielding and other conventional ESD control measures usually influence the results of these tests. Testing on the component level serves as an indicator that the system passes a specific compliance step, but does not ensure that the system passes at that level. The Model 2DTG device, therefore, can support successful implementation of the IEC 61000-4-2 system level ESD standard.

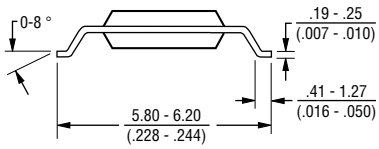
*RoHS Directive 2002/95/EC Jan 27 2003 including Annex
Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Mechanical Characteristics

QSOP Package Dimensions





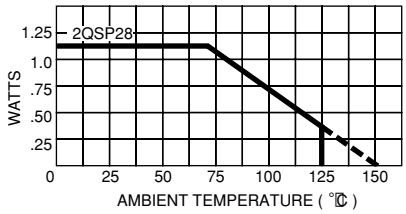


Model	A
2QSP28	9.80 - 9.98 (.386 - .393)

Governing dimensions are in mm. Dimensions in parentheses are in inches and are approximate.

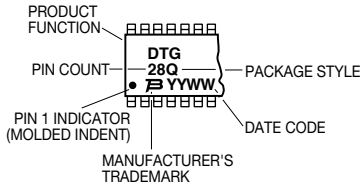
JEDEC Reference Number MO-137.

QSOP Package Power Temperature Derating Curve

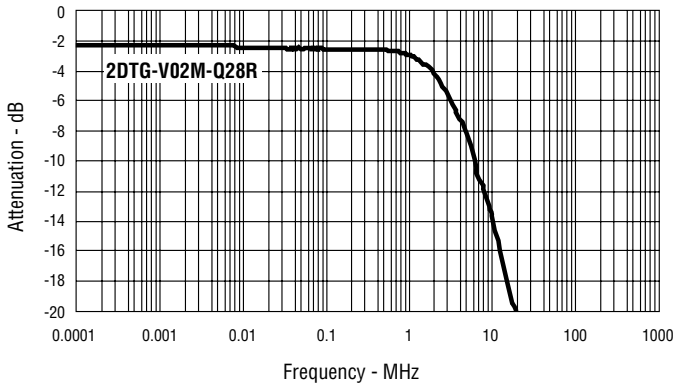


Typical Part Marking

Represents total content. Layout may vary.



Filter Response



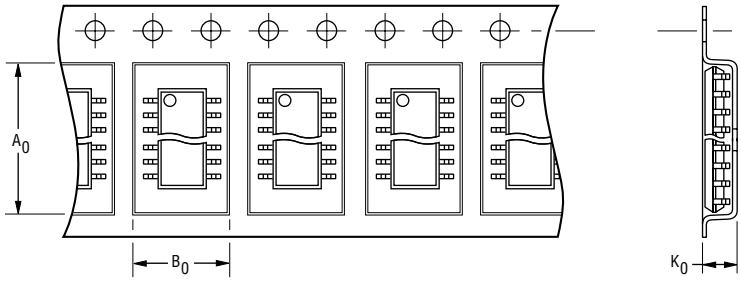
Standard RC Values

Value Code	R1 Value (ohms)	R2 Value (ohms)	C1 Value (pF)	Part Number (Tape & Reel)	Part Number (Tubes)
V02	2.2 K	33	220	2DTG-V02M-Q28R	2DTG-V02M-Q28T

Specifications are subject to change without notice.
Customers should verify actual device performance in their specific applications.

Dispensing

For large quantities, the product will be dispensed in Tape and Reel (see diagram below).



DIMENSIONS = MM (INCHES)

Package	A_0	B_0	K_0	Width	Pitch	No. of Pieces per 13 ” reel	No. of Pieces per tube
QSOP 28 Pin	6.5 (0.256)	10.3 (0.406)	2.1 (0.083)	16 (0.630)	8 (0.315)	3,500	49

How To Order

2 DTG-V02 M-Q 28 R __

Product Class
Thin-Film-on-Silicon

Product Function
DTG = Super Terminator w/Integrated Diodes

Value Code
(Refer to Standard RC Value Table)

Standard Grade

	R Tol.	C Tol.
M =	±10 %	±20 %

Standard Package Style
Q = QSOP

Pin Count
Q = 28

Dispensing
R = Reel T = Tube

Terminations
LF = 100 % Sn (lead free)
Blank = Sn/Pb

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