

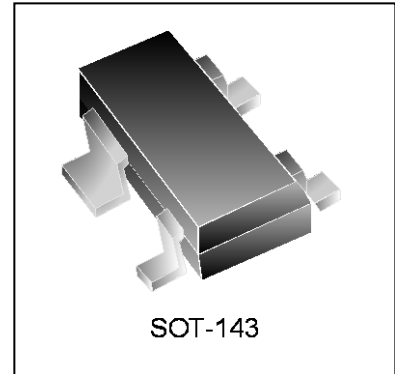


Features

- 500 Watts Peak Power per Line (tp = 8/20μs)
- Protects two I/O lines
- operating voltage: 70V
- Low capacitance(5pF typical) for high-speed interfaces
- Solid-state technology

IEC Compatibility (EN61000-4)

- IEC 61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 18A (8/20μs)



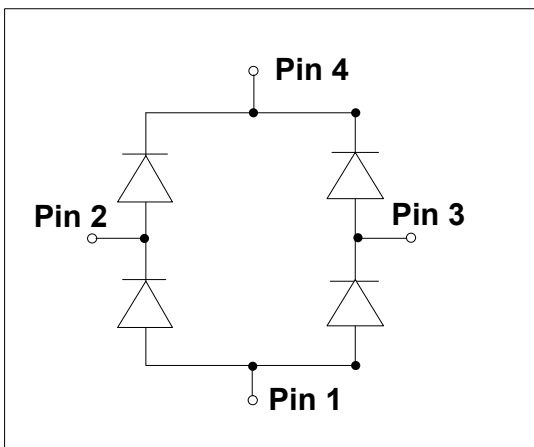
Mechanical Characteristics

- JEDEC SOT-143 package
- Molding compound flammability rating: UL 94V-0
- Marking : Making Code
- Packaging : Tape and Reel per EIA 481
- RoHS Compliant

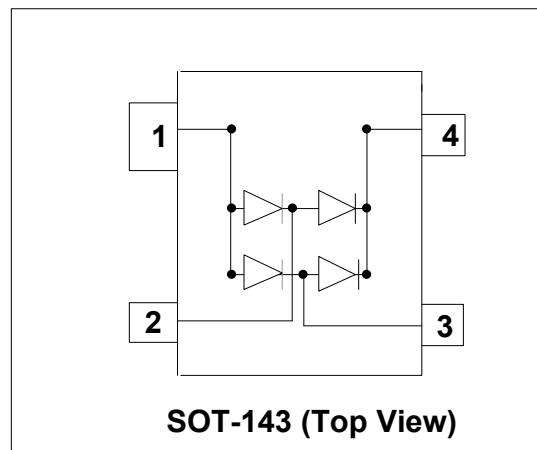
Applications

- 10/100 Ethernet
- FireWire & USB
- Sensitive Analog Inputs
- Portable Electronics
- LAN/WAN equipment
- Video Line Protection
- Microcontroller Input Protection

Circuit Diagram



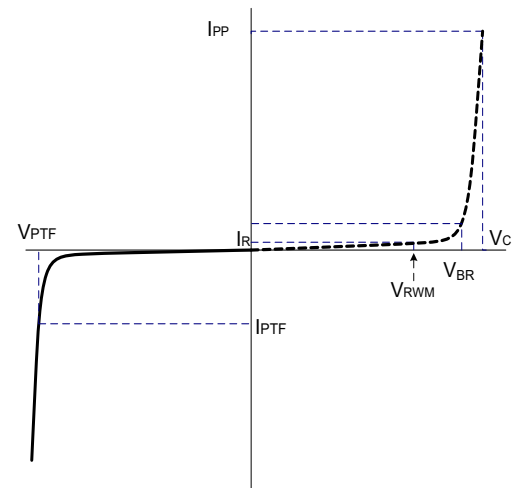
Schematic & PIN Configuration



Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=8/20\mu s$)	P_{PP}	500	Watts
Peak Pulse Current ($t_p=8/20\mu s$)	I_{PP}	18	A
Lead Soldering Temperature	T_L	260(10sec)	$^{\circ}C$
Operating Temperature	T_J	-55 to + 125	$^{\circ}C$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}C$

Electrical Parameters (T=25 $^{\circ}C$)

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
V_{BR}	Breakdown Voltage @ I_T



Electrical Characteristics

DW70R-S						
Parameter	Symbol	Conditions	Minimum	Typical	Maximum	Units
Reverse Stand-Off Voltage	V_{RWM}				70	V
Punch-Through Voltage	V_{BR}	$I_T=50\mu A$	85			V
Reverse Leakage Current	I_R	$V_{RWM}=70V, T=25^{\circ}C$			5.0	μA
Clamping Voltage	V_C	$I_{PP}=1A, t_p=8/20\mu s$			1.5	V
Clamping Voltage	V_C	$I_{PP}=10A, t_p=8/20\mu s$			3.3	V
Clamping Voltage	V_C	$I_{PP}=18A, t_p=8/20\mu s$			6	V
Junction Capacitance	C_j	Between I/O pins and Ground $V_R=0V, f=1MHz$		5	10	pF
		Between I/O pins $V_R=0V, f=1MHz$		3		pF



Typical Characteristics

Figure 1: Peak Pulse Power Vs Pulse Time

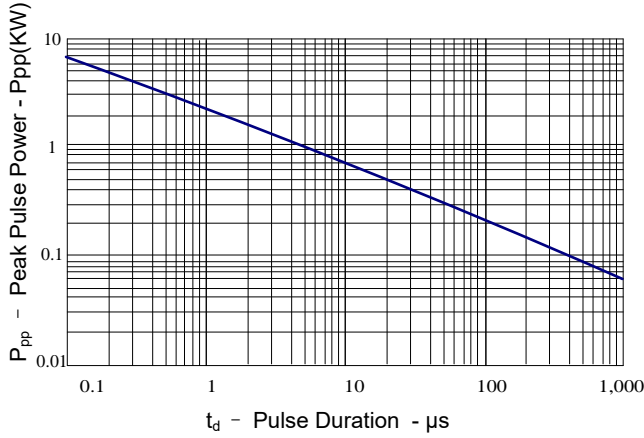


Figure 2: Power Derating Curve

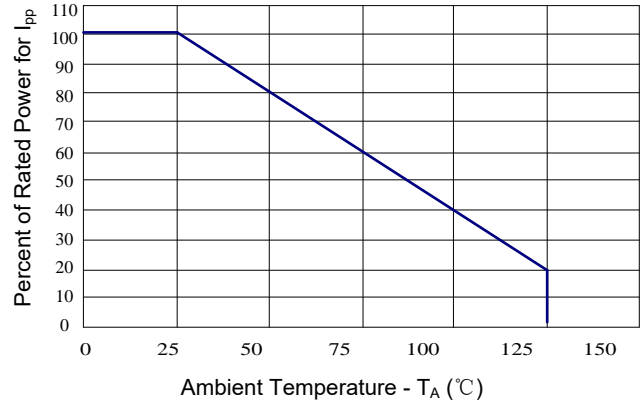


Figure 3: Pulse Waveform

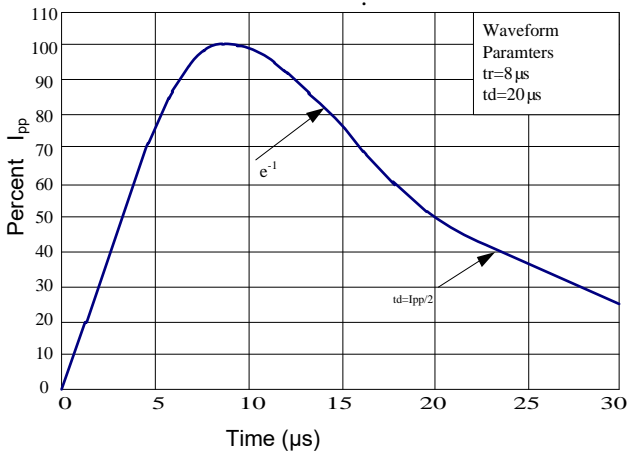


Figure 4: Clamping Voltage vs. Peak Pulse Current

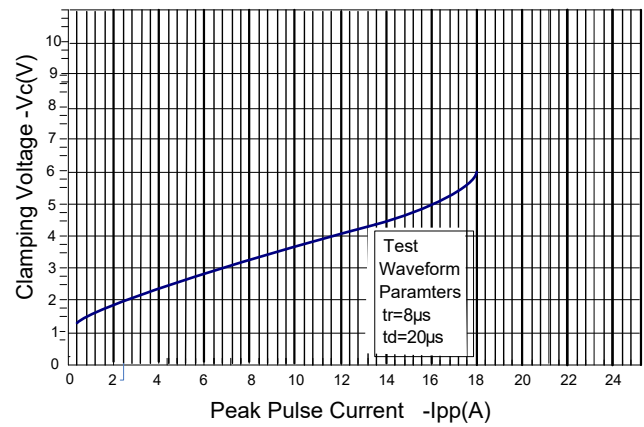


Figure 5: Forward Voltage vs. Forward Current

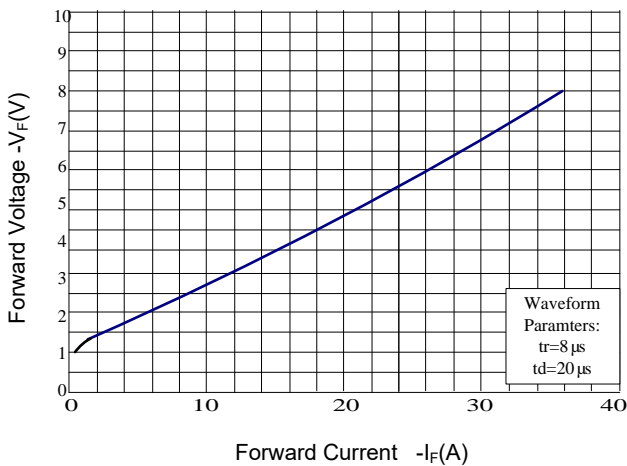
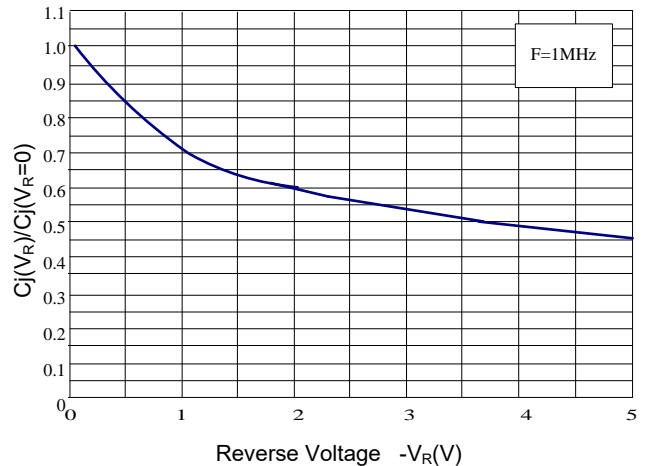
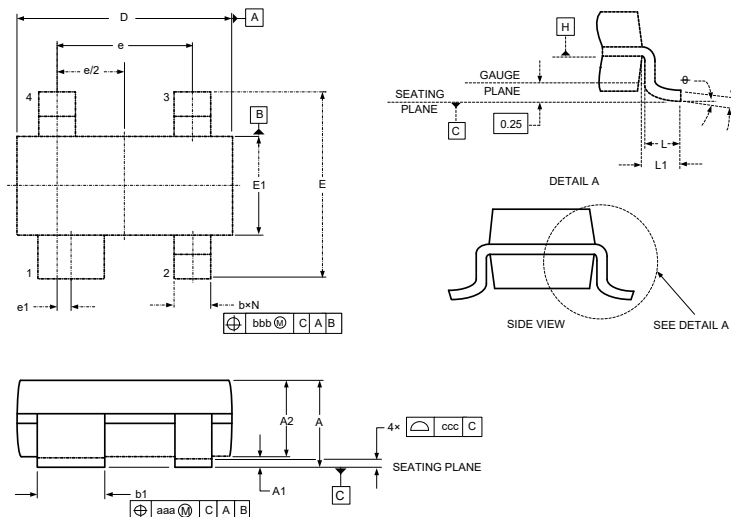


Figure 6: Capacitance vs. Reverse Voltage



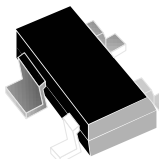
Outline Drawing – SOT-143

PACKAGE OUTLINE



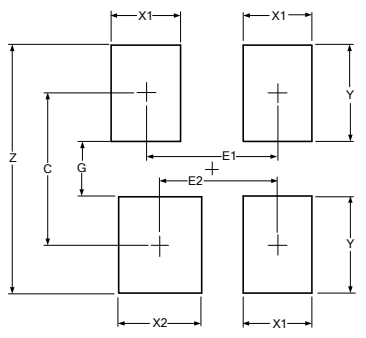
NOTES:

- CONTROLLING DIMENSIONS ARE IN MILLIMETERS (ANGLES IN DEGREES).
- DATUMS AND TO BE DETERMINED AT DATUM PLANE
- DIMENSIONS "E1" AND "D" DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
- REFERENCE JEDEC STD TO-253,VARIATION D.



SOT-143

SYMBOL	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
b1	0.750	0.900	0.030	0.035
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
e	1.800	2.000	0.071	0.079
e1	0.200TYP		0.008TYP	
E	2.250	2.550	0.089	0.100
E1	1.200	1.400	0.047	0.055
L1	0.550REF		0.022REF	
L	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°



DIMENSIONS		
DIM	INCHES	MILLIMETERS
C	.087	2.20
E1	.76	1.92
E2	.068	1.72
G	.031	0.80
X1	.039	1.00
X2	.047	1.20
y	.055	1.40
z	.141	3.60

Notes

- This land pattern is for reference purposes only consult your manufacturing group to ensure your company's manufacturing guidelines are met.
- Reference IPC-SM-782A.

Marking Codes

Part Number	DW70R-S	Marking Code	R70
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Package Information

Qty: 3k/Reel