



# SE03Q8UMI THRU SE36Q4UMI

## ESD PROTECTION DIODE

### FEATURES

- IEC61000-4-2(ESD) 15kV(air), 8kV(Contact)
- Protects one bidirectional line or two unidirectional lines
- Low Clamping Voltage
- Low leakage current
- Working Voltage 3V, 5V, 12V, 15V, 24V, 36V
- Suffix " H " indicated Halogen-free part, ex.SE03Q8UMIH

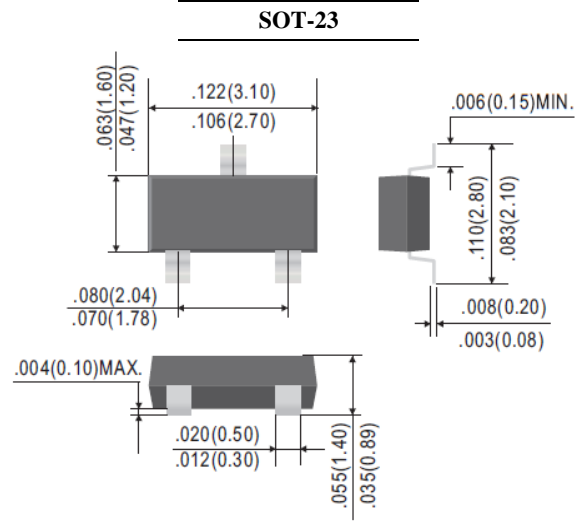
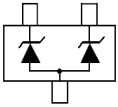
### APPLICATIONS

- Data line protect
- Industrial Controls
- Notebook Computers
- Set-Top Box
- Projection TV
- Cellular handsets AND accessories

### MECHANICAL DATA

Case : SOT-23

### PIN CONFIGURATION



**Dimensions in inches and (millimeters)**

### Maximum Ratings (Rating at 25°C ambient temperature unless otherwise specified)

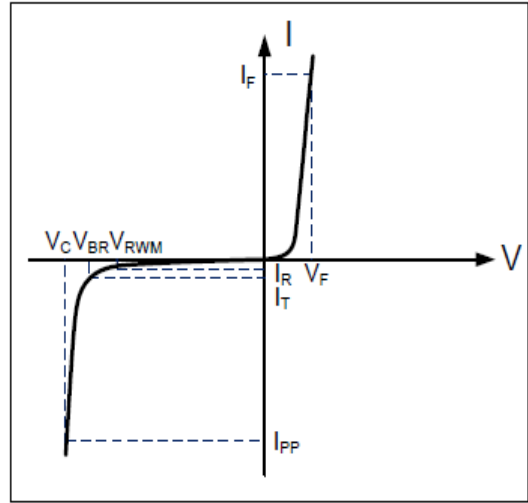
Parameter	Symbol	Value	Units
Peak Pulse Power (tp = 8/20μs)	P <sub>pp</sub>	300	W
ESD per IEC 61000-4-2 (Air)	V <sub>ESD</sub>	15	kV
ESD per IEC 61000-4-2 (Contact)		8	
Operating Temperature Range	T <sub>STG</sub>	-55 to +125	°C
Storage Temperature Range	T <sub>J</sub>	-55 to +150	°C



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Symbol	Parameter
$V_{RWM}$	Working Peak Reverse Voltage
$I_R$	Maximum Reverse Leakage Current @ $V_{RWM}$
$V_{BR}$	Breakdown Voltage @ $I_T$
$I_T$	Test Current for Reverse Breakdown
$V_C$	Clamping Voltage @ $I_{PP}$
$I_{PP}$	Maximum Reverse Peak Pulse Current
$C_j$	Junction Capacitance
$I_F$	Forward Current
$V_F$	Forward Voltage @ $I_F$



### Electrical Characteristics Per line @ 25°C Unless Otherwise Specified

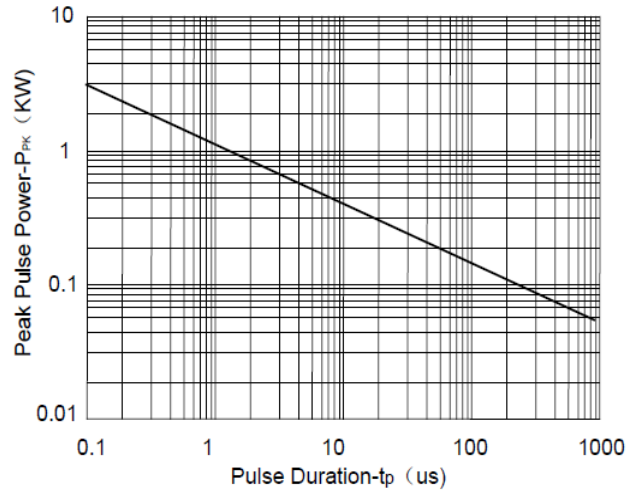
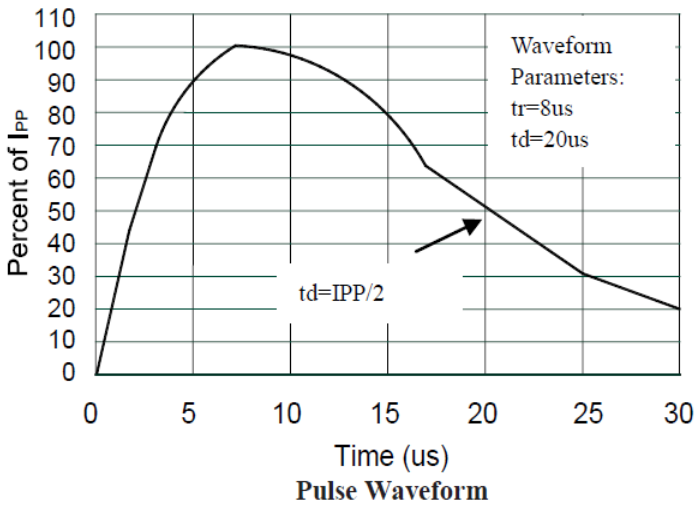
Part Numbers	$V_{RWM}$	$I_R$ @ $V_{RWM}$	$V_{BR}$	$I_T$	$V_C$ @ $I_{PP}=1A$	$I_{PP}$ @ 8/20 $\mu$ S	$C_j$ @ $V_R=0V, 1MHz$	
	(V)	( $\mu$ A)	Min.(V)	(mA)	(V)	Max.(A)	Typ.(pF)	Max.(pF)
SE03Q8UMI	3.0	20.0	4.0	1.0	7.8	6.0	53	87
SE05Q6UMI	5.0	1.0	6.0	1.0	9.8	6.0	45	60
SE12Q5UMI	12.0	1.0	13.3	1.0	19.0	10.0	40	55
SE15Q4UMI	15.0	1.0	16.7	1.0	24.0	7.0	32	42
SE24Q5UMI	24.0	1.0	26.7	1.0	43.0	5.0	45	55
SE36Q4UMI	36.0	1.0	40.0	1.0	60.0	4.0	40	45



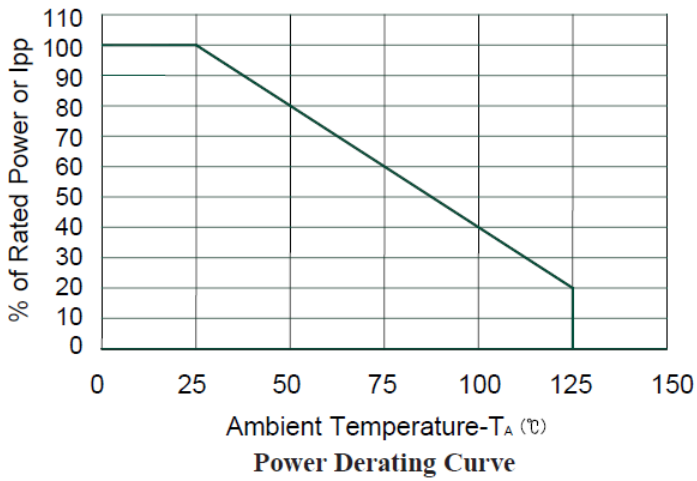
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## ESD PROTECTION DIODE

### RATINGS AND CHARACTERISTIC CURVES



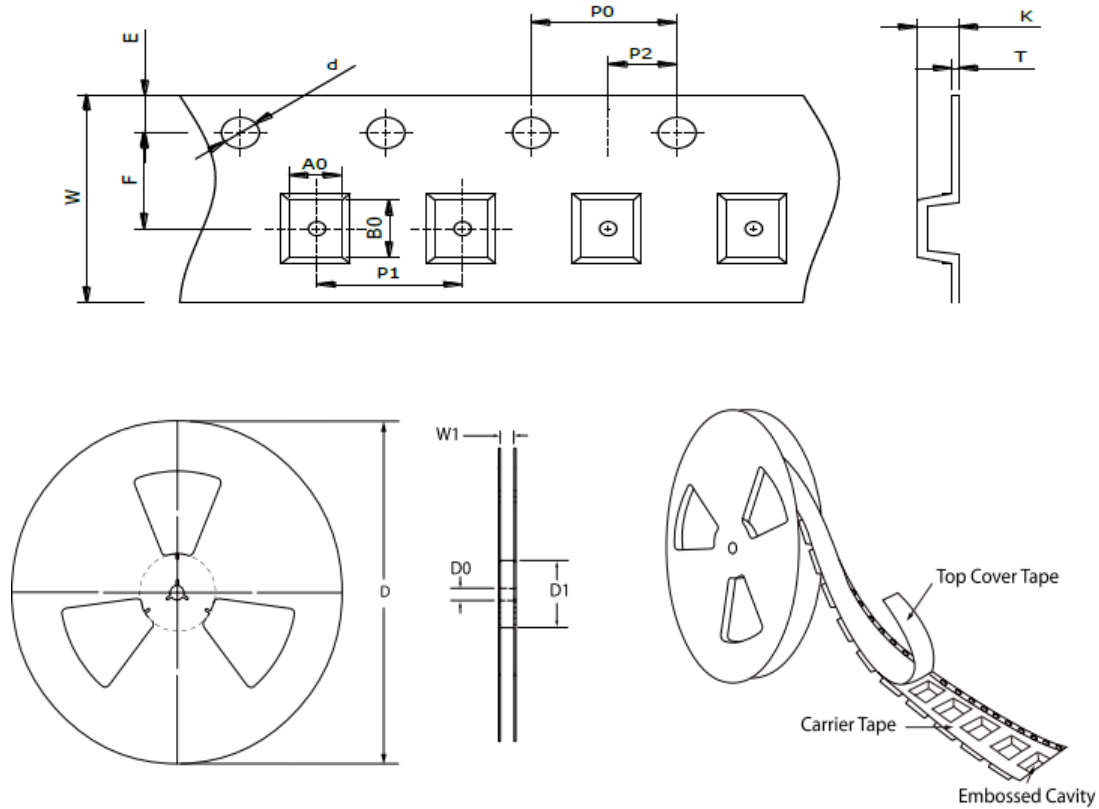
Non-Repetitive Peak Pulse Power vs. Pulse Time





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## TAPE & REEL SPECIFICATION



Item	Symbol	SOT-23
Carrier width	A <sub>0</sub>	3.10 ± 0.10
Carrier length	B <sub>0</sub>	2.70 ± 0.10
Carrier depth	K	1.15 ± 0.10
Sprocket hole	d	1.50 ± 0.10
Reel outside diameter	D	178.00 ± 2.00
Feed hole width	D <sub>0</sub>	13.00 ± 0.20
Reel inner diameter	D <sub>1</sub>	MIN. 54.00
Sprocke hole position	E	1.75 ± 0.10
Punch hole position	F	3.50 ± 0.10
Sprocke hole pitch	P <sub>0</sub>	4.00 ± 0.10
Punch hole pitch	P <sub>1</sub>	4.00 ± 0.10
Embossment center	P <sub>2</sub>	2.00 ± 0.10
Overall tape thickness	T	0.20 ± 0.05
Tape width	W	8.00 ± 0.20
Reel width	W1	MAX. 13.50

## ORDER INFORMATION

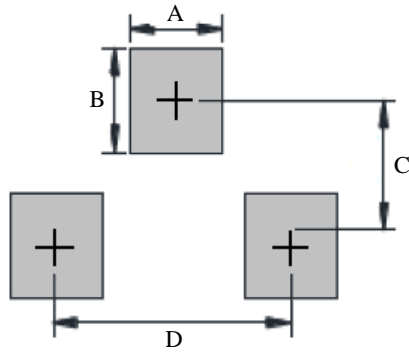
Package	Reel Size	Quantity
SOT-23	7"	3,000



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### SUGGESTED SOLDER PAD LAYOUT



Unit : mm

PACKAGE	A	B	C	D
SOT-23	0.80	0.80	2.02	1.90