

SOT-143 Plastic-Encapsulate ESD Protection Diodes

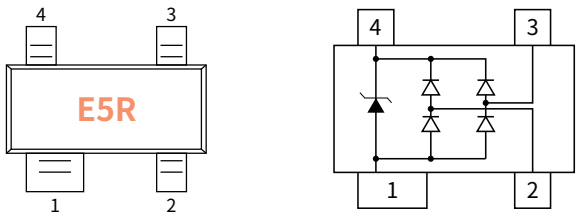
Features

- Low leakage current
- SOT-143 surface mount package
- IEC 61000-4-2 (ESD Air): ±25kV
- IEC 61000-4-2 (ESD Contact): ±20kV
- IEC 61000-4-5 (Lightning 8/20μs): 5A

Applications

- Cellular Handsets and Accessories
- Personal Digital Assistants
- Notebooks and Handhelds
- Portable Instrumentation, Digital Cameras
- Peripherals, Audio Players
- Industrial Equipment

Function Diagram



Reverse Working Voltage
5V Max.
Ultra small capacitance
 $C_{I/O-GND}=0.6\text{pF(Typ.)}$
 $C_{I/O-I/O}=0.3\text{pF(Typ.)}$

SOT-143

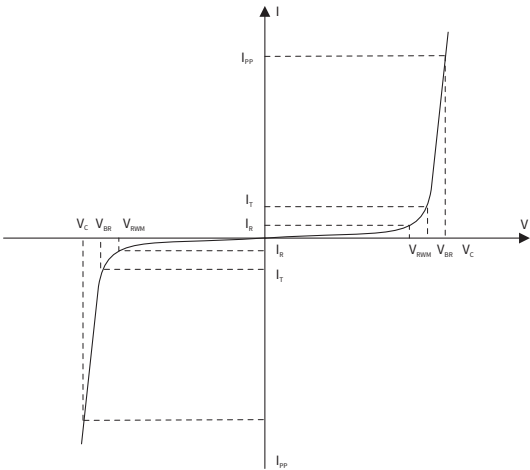


Maximum Ratings (Ta=25°C Unless otherwise specified)

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{ESD}	Electrostatic Discharge Voltage	ESD per IEC 61000-4-2(Air)	±25	KV
		ESD per IEC 61000-4-2(Contact)	±20	KV
P _{PP}	Peak Pulse Power	tp = 8/20 μs	75	W
I _{PP}	Rated Peak Pulse Current	tp = 8/20 μs	5	A
T _J	Operating JunctionTemperature Range	—	-55 to +125	°C
T _{STG}	Operating JunctionTemperature Range	—	-55 to +150	°C

Electrical Parameter

SYMBOL	PARAMETER
V _C	Clamping Voltage @ I _{PP}
V _{BR}	Breakdown Voltage @ I _T
I _{PP}	Peak Pulse Current
I _T	Test Current
I _R	Reverse Leakage Current @ VRWM
V _{RWM}	Peak Reverse Working Voltage
P _{PP}	Peak Pulse Power Dissipation
C _J	Junction Capacitance @ V _R =0V,f=1MHz
I _F	Forward Current
V _F	Forward Voltage @I _F



● Electrical Characteristics (Ta=25°C Unless otherwise specified)

PARAMETER	SYMBOL	CONDITION	Min	Typ	Max	UNIT
Peak Reverse Working Voltage	V_{RWM}	$T_a=25^{\circ}C$	—	—	5.0	V
Breakdown Voltage	V_{BR}	$I_R=1mA, T_a=25^{\circ}C$	6.0	—	—	V
Reverse Leakage Current	I_R	$V_R=5V, T_a=25^{\circ}C$	—	—	0.5	μA
Clamping Voltage	V_C	$I_{PP}=1.0A, t_p=8/20\mu s$	—	—	10	V
		$I_{PP}=5A, t_p=8/20\mu s$	—	—	15	
Junction Capacitance	C_J	$V_R=0V, f=1MHz, I/O$ Pin to ground	—	0.6	0.8	pF
		$V_R=0V, f=1MHz, Between I/O$ pins	—	0.3	0.4	

● Ratings And Characteristics Curves (Ta=25°C Unless otherwise specified)

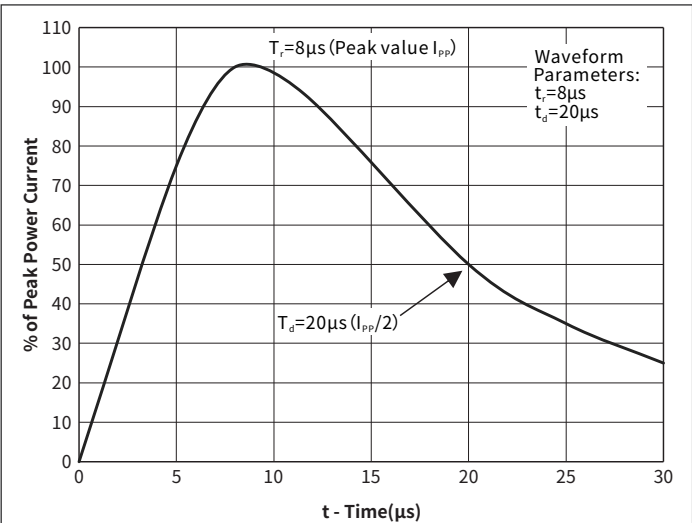


Fig.1 Pulse Waveform

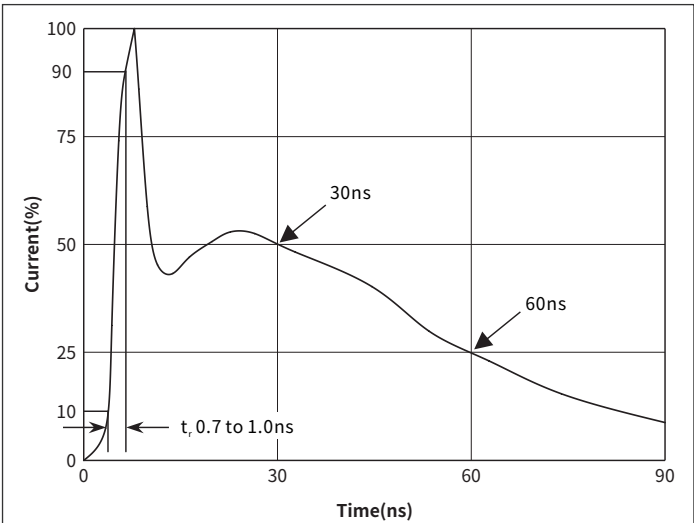


Fig.2 Pulse Waveform-ESD(IEC61000-4-2)

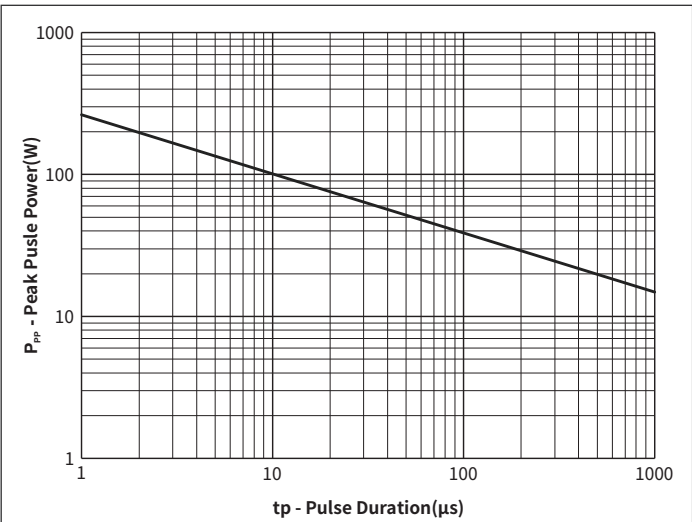


Fig.3 Peak Pulse Power vs. Pulse Time

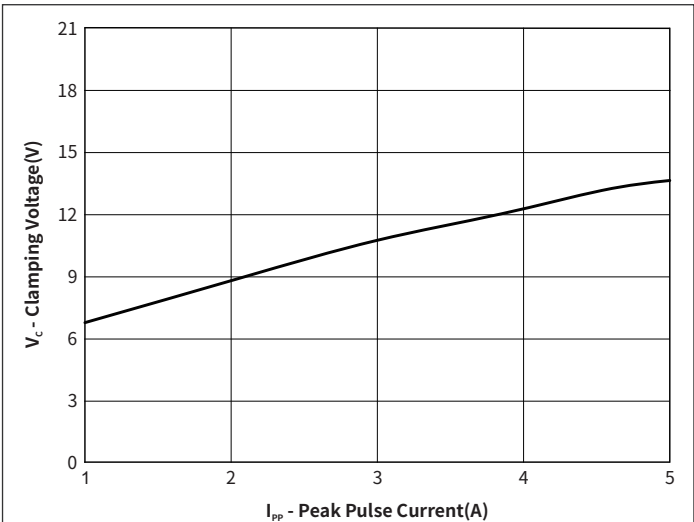
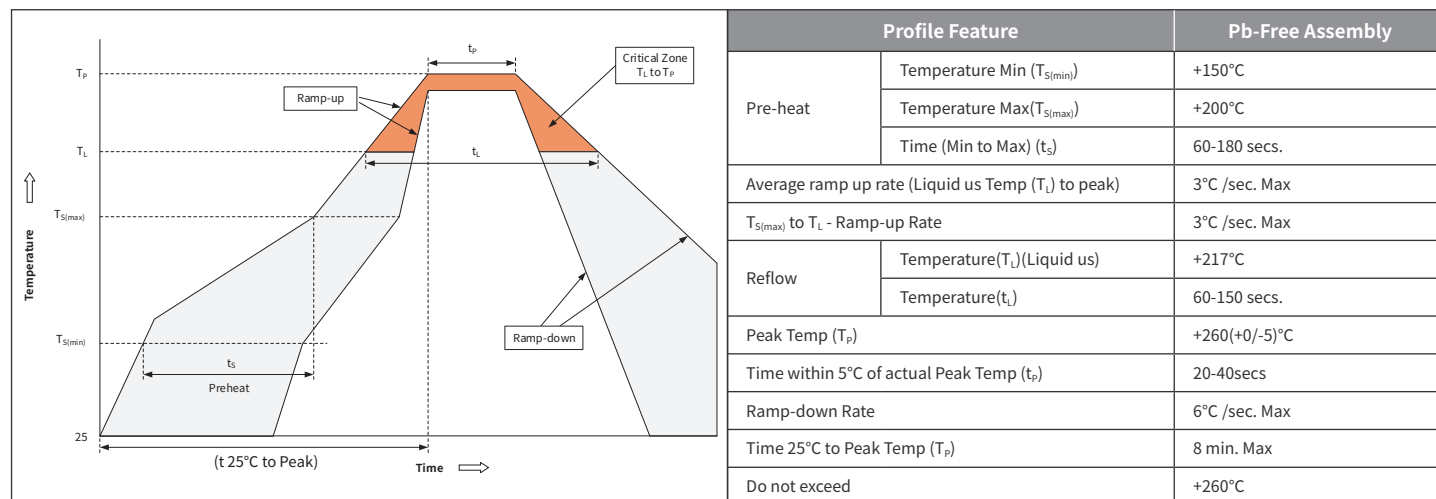


Fig.4 Clamping Voltage vs. Peak Pulse Current

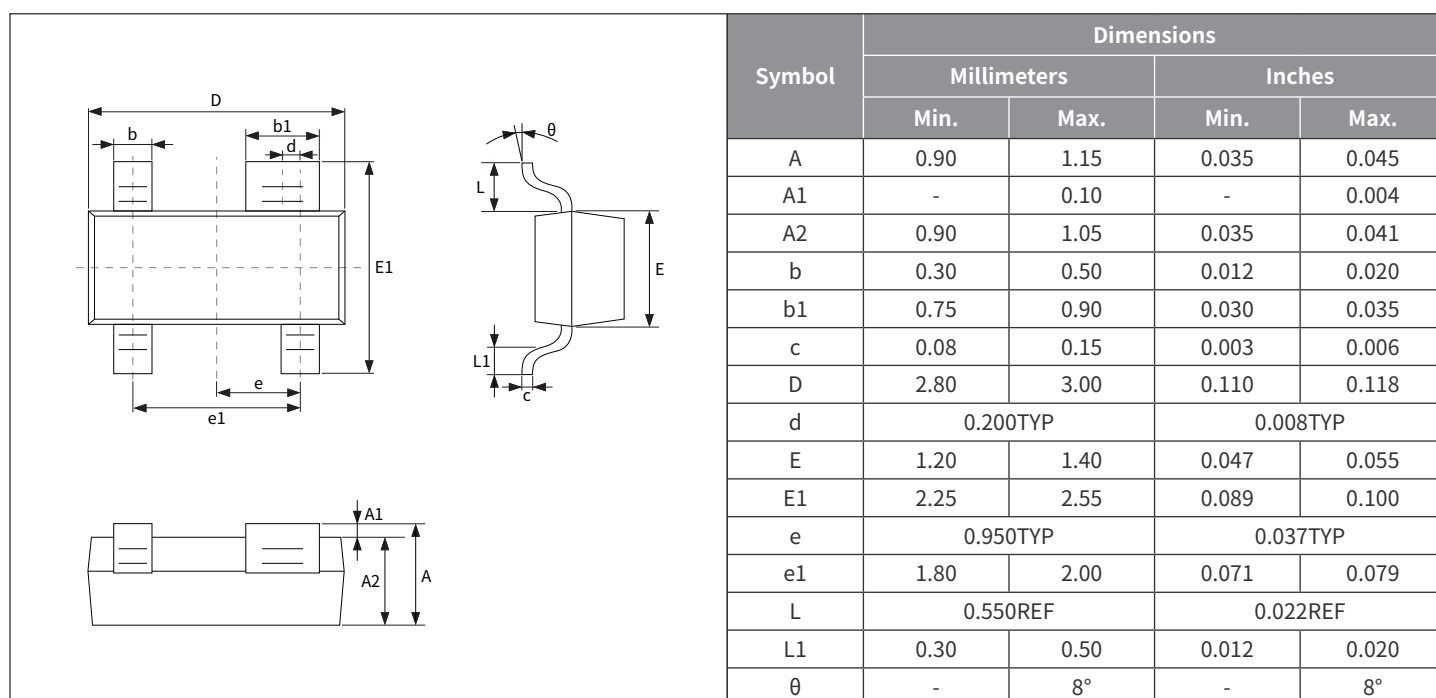
● Ordering Information

PREFERED P/N	PACKAGE	SIZE(mm)	DELIVERY MODE	MPQ(PCS)
H5VUT1B	SOT-143	2.90×2.40×1.025	7" REEL	3000

● Recommended Soldering Conditions



● Package Outline Dimensions (SOT-143)



● Suggested Pad Layout

