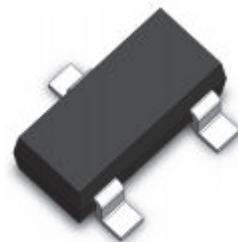


FEATURES

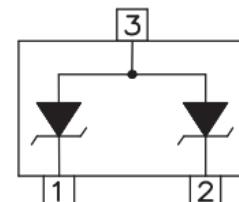
- ✧ 350 watts peak pulse power per line ($t_P=8/20\mu s$)
- ✧ Protects two I/O lines with uni-directional
- ✧ Low clamping voltage
- ✧ Working voltages: 5V
- ✧ Low leakage current
- ✧ Meet MSL 1 requirements
- ✧ RoHS compliant
- ✧ Compliant to Halogen - free
- ✧ Suffix "-Q1" for AEC-Q101



SOT-23

MAIN APPLICATIONS

- ✧ RS-232, RS-422 & RS-485
- ✧ Servers, notebook, and desktop
- ✧ Cellular handsets and accessories
- ✧ Control & monitoring systems
- ✧ Portable electronics
- ✧ Wireless bus protection
- ✧ Set-top box



PIN Configuration

PROTECTION SOLUTION TO MEET

- ✧ IEC61000-4-2 (ESD) $\pm 30kV$ (air), $\pm 30kV$ (contact)
- ✧ IEC61000-4-4 (EFT) 40A (5/50ns)
- ✧ IEC61000-4-5 (lightning) 18A (8/20 μs)

MECHANICAL CHARACTERISTICS

- ✧ SOT-23 package
- ✧ Molding compound flammability rating: UL 94V-0
- ✧ Lead finish: lead free
- ✧ Marking code: 5M2/S05

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 8/20μs waveform	P_{PP}	350	W
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V_{ESD}	+/- 30 +/- 30	kV
Lead soldering temperature	T_L	260 (10 sec.)	°C
Operating junction temperature range	T_J	-55 to +125	°C
Storage temperature range	T_{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse working voltage	V_{RWM}				5.0	V
Reverse breakdown voltage	V_{BR}	$I_T = 1\text{mA}$	6.0			V
Reverse leakage current	I_R	$V_{RWM} = 5\text{V}$			1	μA
Clamping voltage	V_C	$I_{PP}^{\text{(1)}} = 1\text{A}, t_P=8/20\mu\text{s}$			9.8	V
		$I_{PP}^{\text{(2)}} = 18\text{A}, t_P=8/20\mu\text{s}$			16.7	V
Junction capacitance	$C_J^{\text{(2)}}$	$V_{RWM} = 0\text{V}, f = 1\text{MHz}$	180	250		pF

①Surge waveform: 8/20μs

② C_J measured @ $V_{RWM}=0\text{V}, 1\text{MHz}$ (pin1 to pin3, pin2 to pin3)

RATINGS AND V-I CHARACTERISTICS CURVES ($T_A=25^\circ\text{C}$, unless otherwise noted)

**FIG.1:V- I curve characteristics
(Uni-directional)**

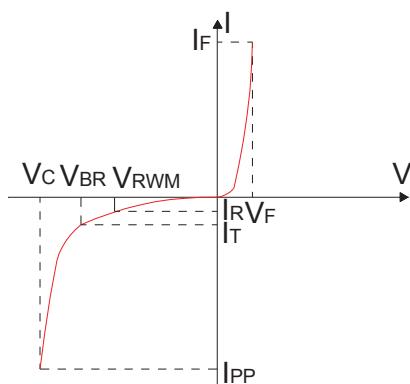


FIG.2: Pulse waveform (8/20μs)

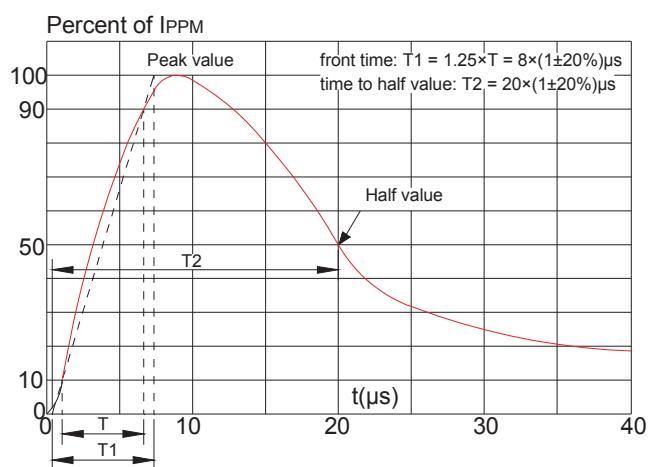


FIG.3: Pulse derating curve

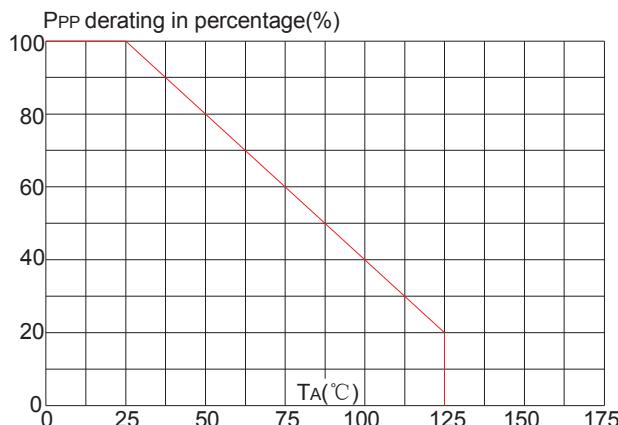
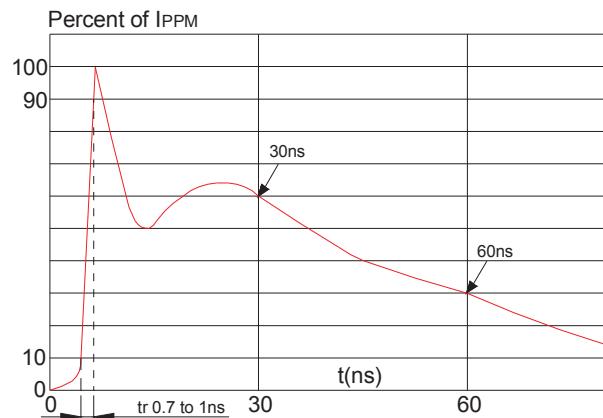
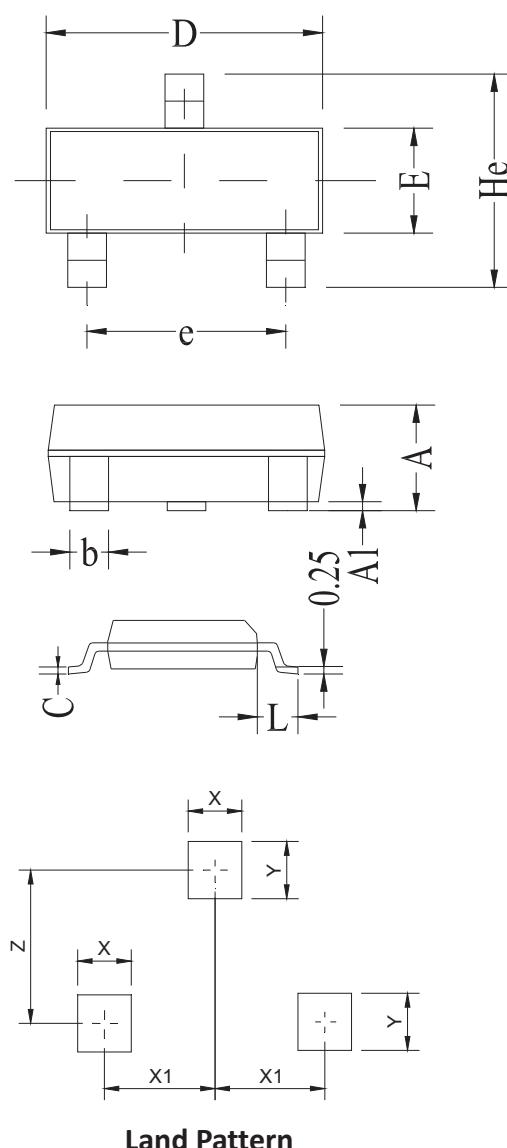


FIG.4: ESD clamping



PACKAGE MECHANICAL DATA



Symbol	Millimeter		Inches	
	Min	Max	Min	Max
A	0.89	1.15	0.035	0.045
A1	0.00	0.14	0.000	0.006
b	0.25	0.51	0.010	0.020
C	0.07	0.25	0.003	0.010
D	2.80	3.04	0.110	0.120
e	1.80	2.00	0.071	0.075
E	1.20	1.40	0.047	0.055
L	0.55		0.022	
He	2.10	2.64	0.082	0.104
X	1.00		0.039	
X1	0.95		0.037	
Y	1.40		0.055	
Z	2.20		0.087	