PG15ECS23

Array Line TVS Diode for ESD Protection in Portable Electronics

Low Clamping Voltage
Uni-directional ESD / Transient Protection Diodes

SOT-23 (SMD-type)

FEATURES

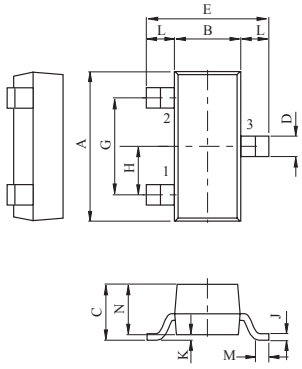
- Transient protection for data lines to
  - IEC61000-4-2(ESD) : Air mode ±30kV / Contact mode ±30kV
  - IEC61000-4-5(Surge) : 5.2A(tp=8/20μs)
- Uni-directional working voltage up to : V_{RWM} = 15V
- Suffix **U** : Qualified to AEC-Q101

  ex) PG15ECS23-RTK/H**U**

PRODUCT DESCRIPTION

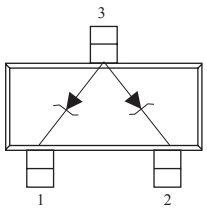
- Molding compound flammability rating : UL 94V-0
- Pb-Free, Halogen-Free, RoHs Compliant

Package dimensions (SOT-23)	Pin configurations (Uni-directional)



Unit : mm

DIM	MILLIMETERS
A	2.93 ± 0.20
B	1.30+0.20/-0.15
C	1.0+0.3/-0.1
D	0.40+0.15/-0.05
E	2.40+0.30/-0.20
G	1.90 ± 0.10
H	0.95 ± 0.10
J	0.13+0.10/-0.05
K	0.00 ~ 0.10
L	0.55 ± 0.10
M	0.20 MIN
N	1.00+0.20/-0.10



Pin	Identification
1,2	CATHODE
3	ANODE

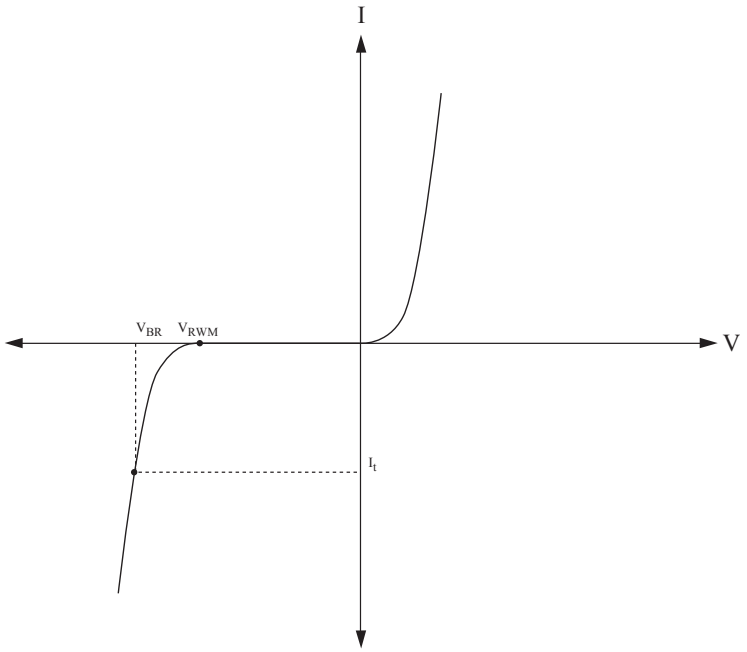
ORDERING INFORMATION

Part Number	Qty per Reel	Reel Size	Marking code
PG15ECS23-RTK/HU	3,000	7 inch	QC

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Peak Pulse Power (tp=8/20μs)	P_{PK}	140	W
Peak Pulse Current (tp=8/20μs)	I_{PP}	5.2	A
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~ 150	°C

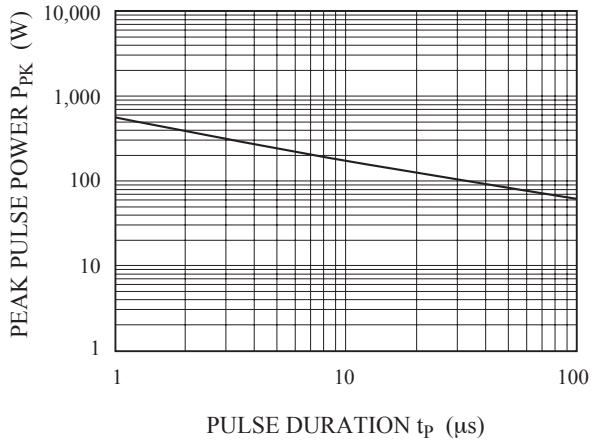
DEFINITIONS OF ELECTRICAL CHARACTERISTIC SYMBOL



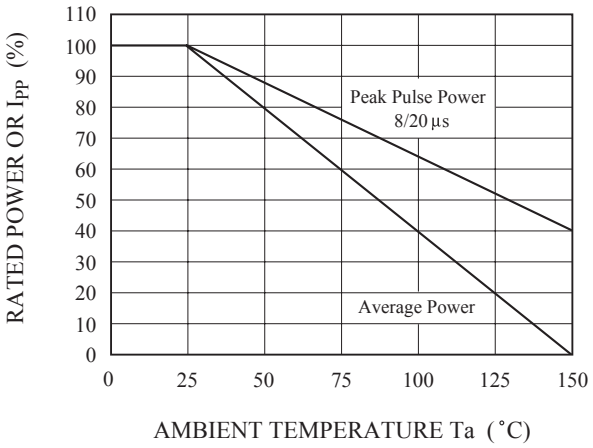
ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION		MIN.	TYP.	MAX.	UNIT
Reverse Stand-Off Voltage	V_{RWM}	1,2 pin to 3 pin		-	-	15	V
Reverse Leakage Current	I_R	V_{RWM}=15V, 1,2 pin to 3 pin		-	-	100	nA
Reverse Breakdown Voltage	V_{BR}	I_t=1mA, 1,2 pin to 3 pin		17.1	-	20.3	V
Total Capacitance	C_T	V_R=0V, f=1MHz, 1,2 pin to 3 pin		-	-	50	pF
Clamping Voltage	V_C	I_{PP}=1A, tp=8/20μs, 1,2 pin to 3 pin		-	-	21.5	V
		I_{PP}=5A, tp=8/20μs, 1,2 pin to 3 pin		-	-	26.9	
Electrostatic Discharge	V_{ESD}	IEC61000-4-2	Air	±30	-	-	kV
			Contact	±30			

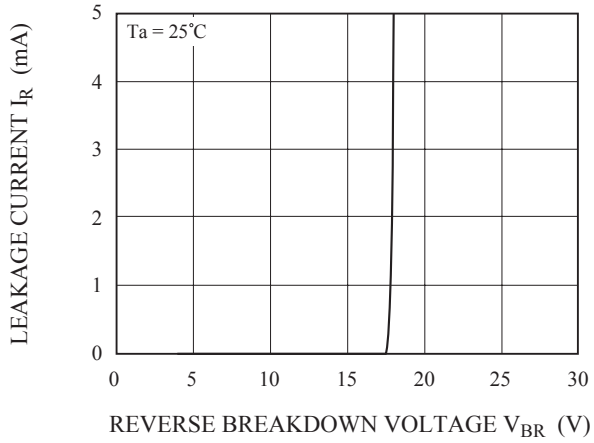
NON-REPETITIVE PEAK PULSE POWER VS. PULSE TIME



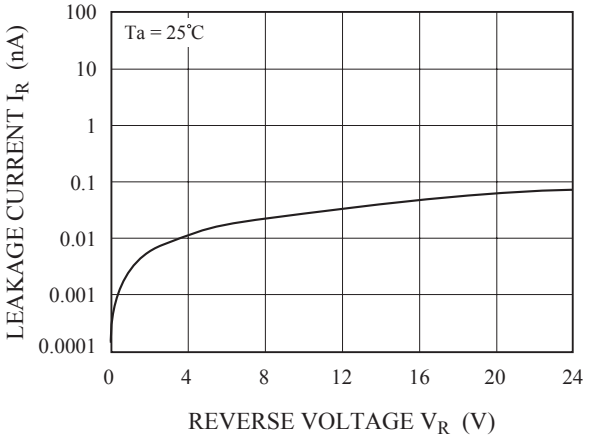
POWER DERATION CURVE



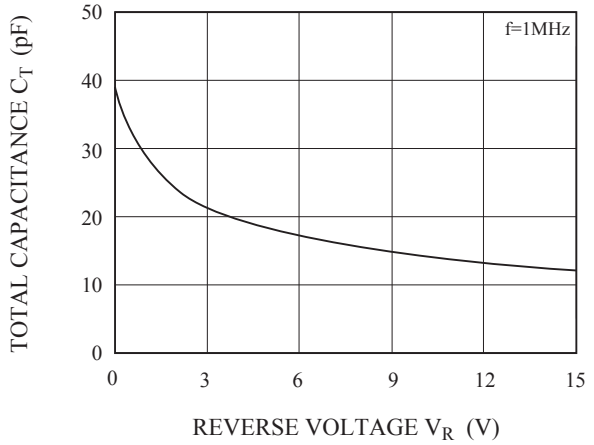
I_R - V_{BR}



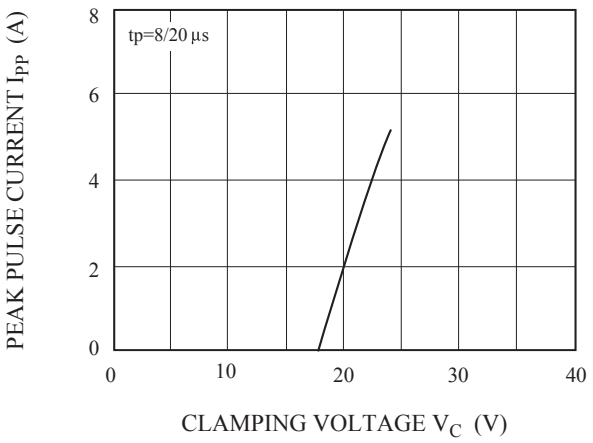
I_R - V_R



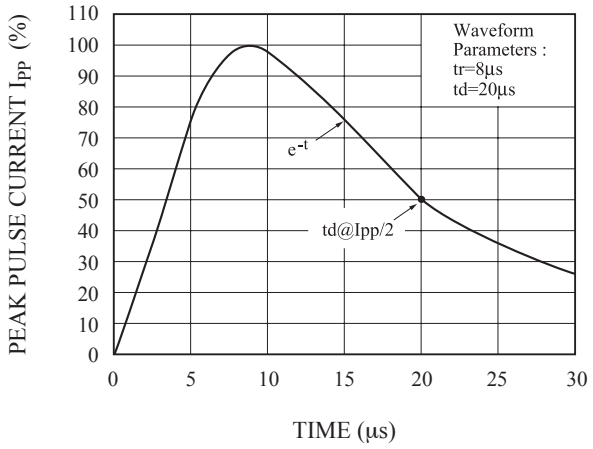
C_T - V_R



I_{PP} - V_C



PULSE WAVEFORM



APPLICATIONS

- Automotive application

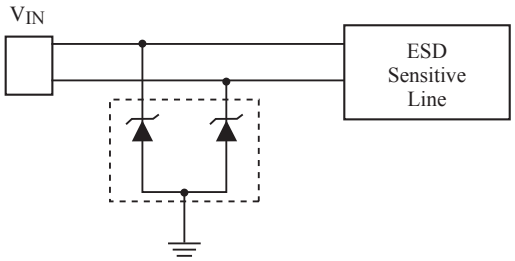


Figure 1. TVS Protection Circuit

Recommended pad dimension & Marking Information

Recommended pad dimension	Marking Code