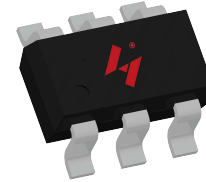


Ultra-Low Capacitance TVS Diode Array

Feature Description

- Low operating voltage: 5.0V
- Low clamping voltage
- Low capacitance between I/O lines: 0.8pF
- Protects four I/O lines
- ESD PROTECTION for high speed data lines:
 - IEC 61000-4-2, level4 (ESD) immunity test
 - ±15KV (air discharge) and ±10KV (contact discharge)

Pin Description

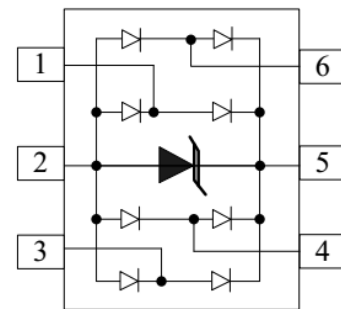


SOT23-6L

Main Product Characteristics

V_{RWM}	5V
P_{PP}	100W
I_{PP}	5A
$T_j(max)$	150°C

Pin Configuration



SOT23-6L (Top View)

Applications

- USB 2.0 power and dataline protection
- Monitors and flat panel displays
- Video graphics cards
- Digital video interface
- Notebook computers

Ordering and Marking Information

<p>HYE0505F XXX</p>	<p>Package Code SOT23-6L</p> <p>Date Code XXX</p>	<p>Assembly Material G:Halogen Free</p>
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Note: HUAYI lead-free products contain molding compounds/die attach materials and 100% matte tin plate Termination finish; which are fully compliant with RoHS. HUAYI lead-free products meet or exceed the lead-free requirements of IPC/JEDEC J-STD-020 for MSL classification at lead-free peak reflow temperature. HUAYI defines “Green” to mean lead-free (RoHS compliant) and halogen free (Br or Cl does not exceed 900ppm by weight in homogeneous material and total of Br and Cl does not exceed 1500ppm by weight).

HUAYI reserves the right to make changes, corrections, enhancements, modifications, and improvements to this product and/or to this document at any time without notice.

Absolute Maximum Ratings Tc =25°C, Unless Otherwise Specified

Symbol	Parameter	Rating	Unit
Common Ratings (Tc=25°C Unless Otherwise Noted)			
PPP	Peak Pulse Power (tp=8/20us)	100	W
IPP	Peak Pulse Current (tp=8/20us)	5	A
TJ	Maximum operation and Junction Temperature Range	-55 to125	°C
TSTG	Device Storage Temperature Range	-55 to150	°C
ESD	ESD Rating per IEC 61000-4-2, Contact	±10	KV
ESD	ESD Rating per IEC 61000-4-2, Air	±15	KV

Electrical Characteristics(Tc =25°C Unless Otherwise Specified)

Symbol	Parameter	Test Conditions	HYE0505F			Unit
			Min	Typ.	Max	
V _{RWM}	Reverse Working Voltage	Between Pin5 to Pin2 T=25°C	-	-	5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T =1mA, Between Pin5 to Pin2	6.0	-	-	V
I _R	Reverse Leakage Current	V _{RWM} =5.0V Between Pin5 to Pin2, T=25°C	-	-	1.0	uA
V _F	Diode Forward Voltage	I _F =10mA	-	0.8	1.0	V
V _C	Clamping Voltage	I _{PP} =1A, tp=8/20us, any I/O pin to Ground	-	8.5	12	V
	Clamping Voltage	I _{PP} =5A, tp=8/20us, any I/O pin to Ground	-	12	16	V
C _j	Junction Capacitance	V _R =0V, f=1MHz, Between I/O pins	-	0.3	0.4	pF
	Junction Capacitance	V _R =0V, f=1MHz, any I/O pin to Ground	-	0.6	0.8	pF

Typical Operating Characteristics

Figure 1: Peak Pulse Power vs Pulse Time

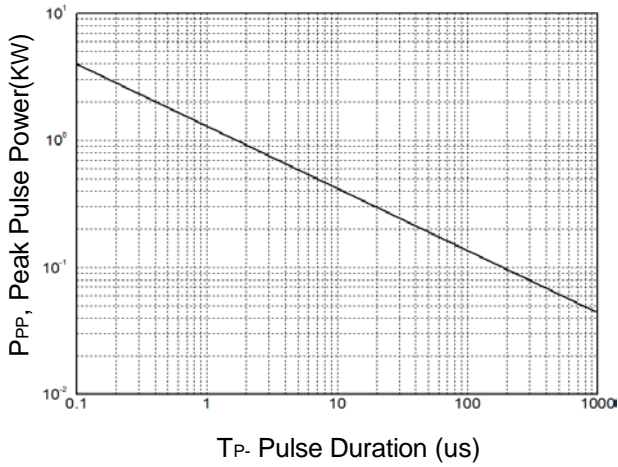


Figure 2: Power Derating Curve

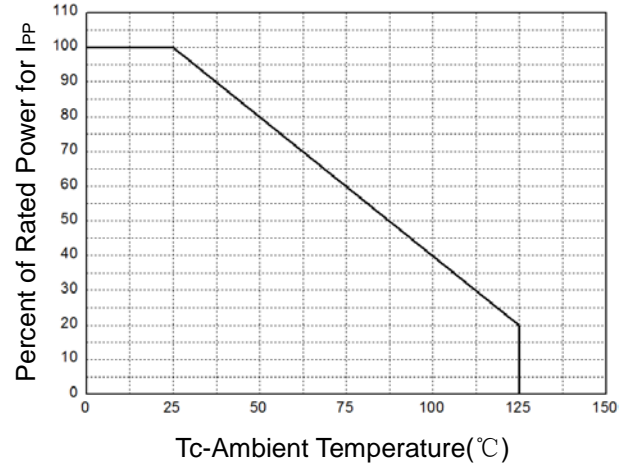


Figure 3: Clamping Voltage vs Peak Pulse Current

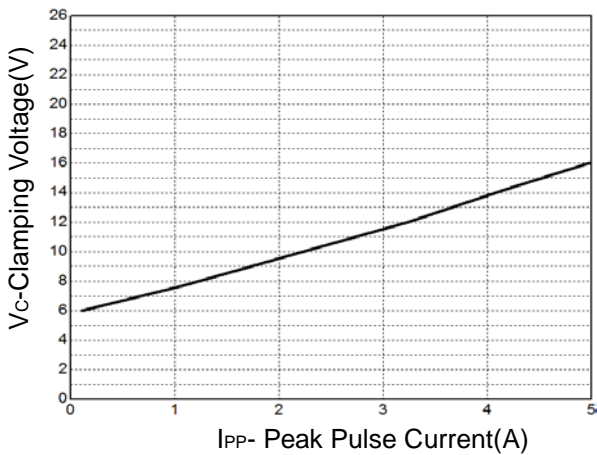


Figure 3: Junction Capacitance vs Reverse Voltage

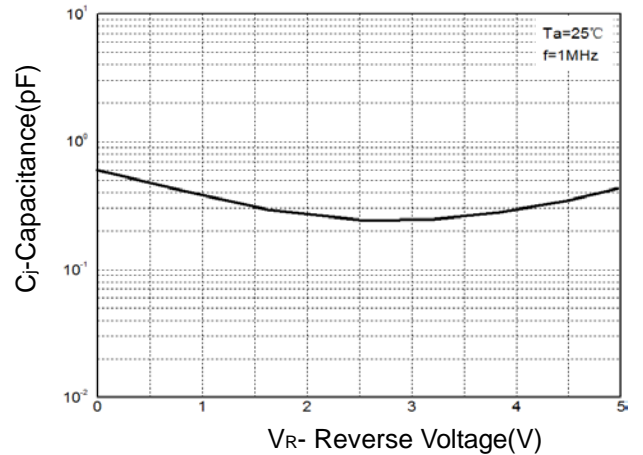


Figure 3: Forward Current vs Reverse Voltage

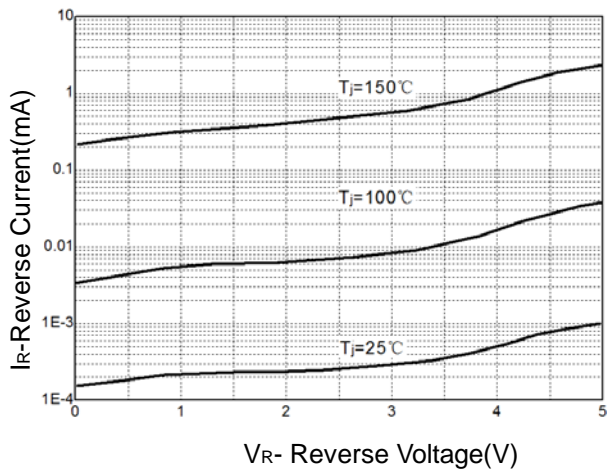
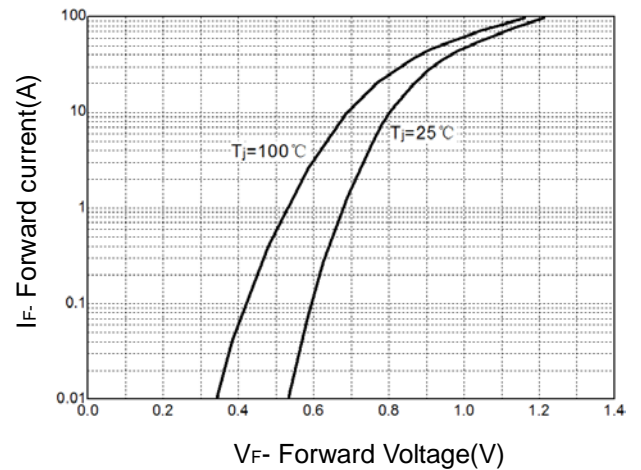
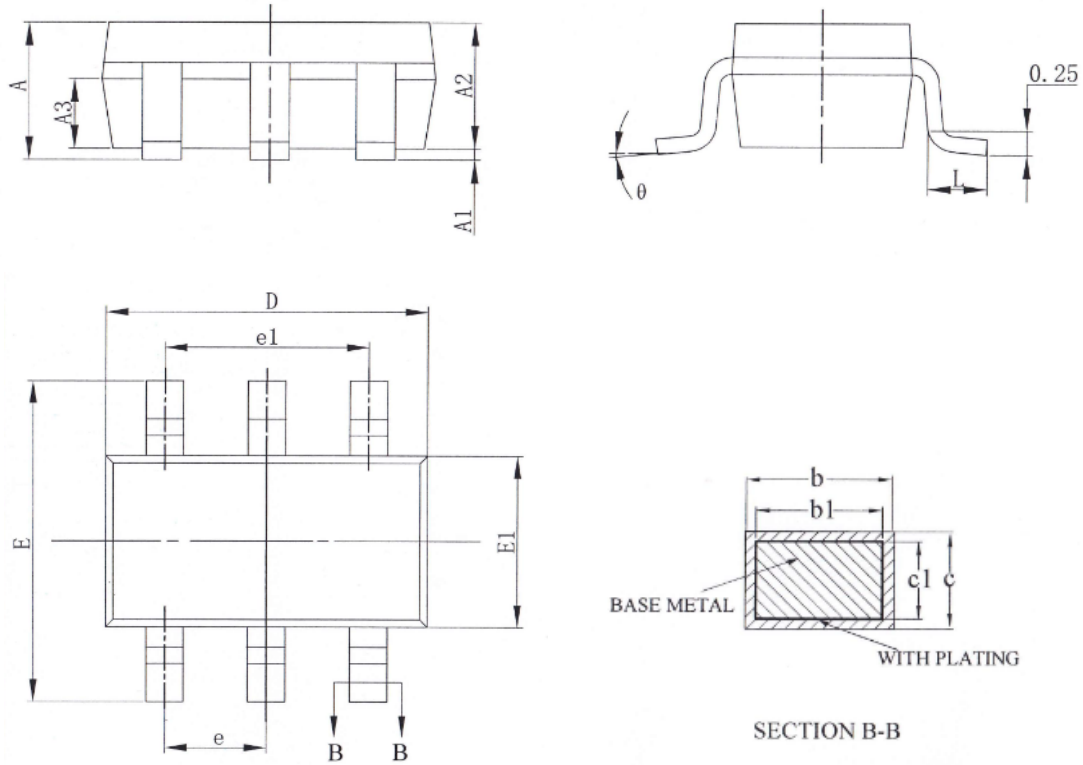


Figure 3: Forward Current vs Forward Voltage



Package Information:

SOT23-6L



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	—	—	1.25
A1	0.04	—	0.10
A2	1.00	1.10	1.20
A3	0.55	0.65	0.75
b	0.38	—	0.48
b1	0.37	0.40	0.43
c	0.11	—	0.21
c1	0.10	0.13	0.16
D	2.72	2.92	3.12
E	2.60	2.80	3.00
E1	1.40	1.60	1.80
e	0.95BSC		
e1	1.90BSC		
L	0.30	—	0.60
θ	0	—	8°

Ordering and Marking Information

Device Marking: HYE0505F

Package (Available)
SOT23-6L
Operating Temperature Range
C : -55 to 150 °C

Devices per Unit

Package Type	Unit	Quantity
SOT23-6L	Reel	3000

Reliability Test Program

Test Item	Conditions	Duration	Sample Size
High Temperature Reverse Bias(HTRB)	Tj=125°C to 150°C @ 80% of Max VDSS/VCES/VR	168 hours 500 hours 1000 hours	3 lots x 77 devices

Customer Service

Worldwide Sales and Service: sales@hymexa.com

Technical Support: Technology@hymexa.com

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