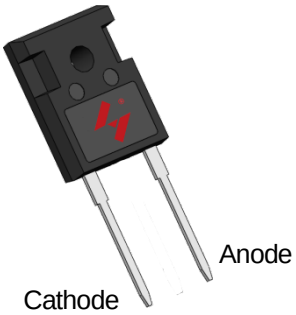
Feature Description

- High junction temperature
- High ESD protection
- High forward reverse surge capability
- Planar Construction

Pin Description



TO-247-2L

Schematic Diagram

Main Product Characteristics

I_F	60A
V_{RRM}	600V
Tj(max)	175°C
V_f(max)	1.35V

Applications

- Switching Power Supplies
- Power Switching Circuits
- General Purpose

Ordering and Marking Information

W HY6060 YYXXXJWW G	Package Code D: TO-247-2L Date Code YYXXXJWW G Assembly Material G:Lead Free

Note: HUAYI lead-free products contain molding compounds/die attach materials and 100% matte tin plate Termi-Nation finish;which are fully compliant with RoHS. HUAYI lead-free products meet or exceed the lead-Free require-ments 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 pr-oduct 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)				
V_{RRM}	Peak Repetitive Reverse Voltage		600	V
V_{RWM}	Working Peak Reverse Voltage		600	V
$I_{F(AV)}$	Average Forward Current		60	A
I_{FRM}	Repetitive Peak Surge Current	SquareWave,20kHz	94.2	A
I_{FSM}	Nonrepetitive Peak Surge Current	Halfwave，1Phase，50HZ	400	A
$R_{\theta JC}$	Thermal Resistance-Junction to Case		0.43	°C/W
T_J	Maximum operation and Junction Temperature Range		-55~175	°C

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

Symbol	Parameter	Test Conditions	HY6060			Unit
			Min	Typ.	Max	
V_R	Reverse Breakdown Voltage	I_R= 50uA	600	-	-	V
V_F	forward voltage drop	I_F= 60A， T_J=25°C	-	1.14	1.35	V
I_R	Leakage Current	V_R= 600V， T_J=25°C	-	-	100	uA
		V_R= 600V， T_J=150°C	-	-	500	
T_{rr}	Reverse recovery time Peak recovery current	I_F=10A, di/dt=100A/u	-	138	160	ns
Qrr	Reverse recovery charge	I_F=10A, di/dt=100A/u	-	0.5	-	uC

Typical Operating Characteristics

Figure 1: Forward Current vs Forward Voltage

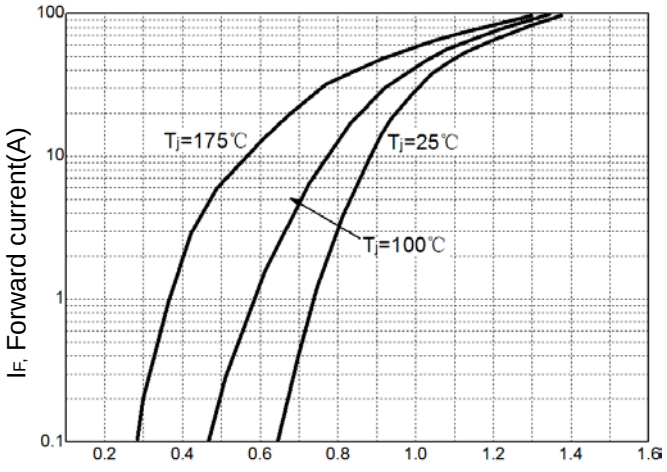


Figure 2: Forward Current vs Reverse Voltage

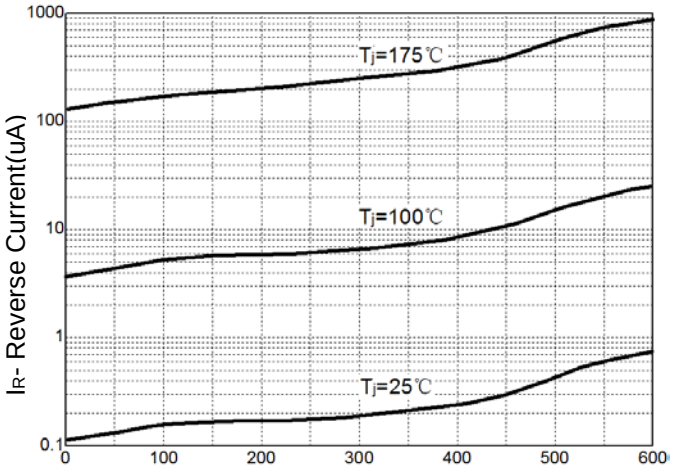
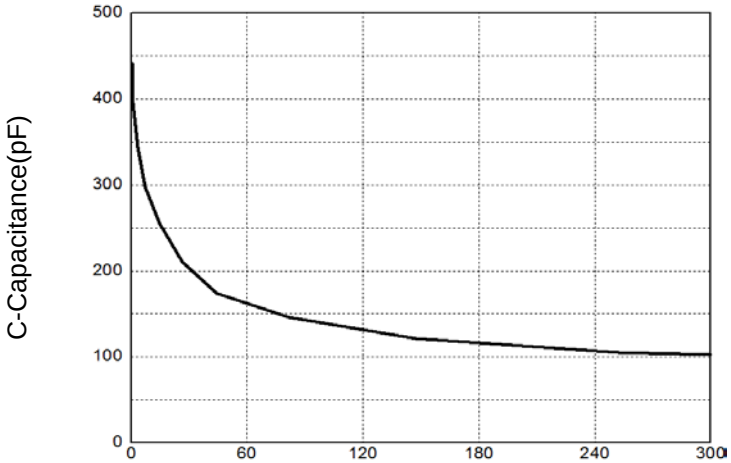
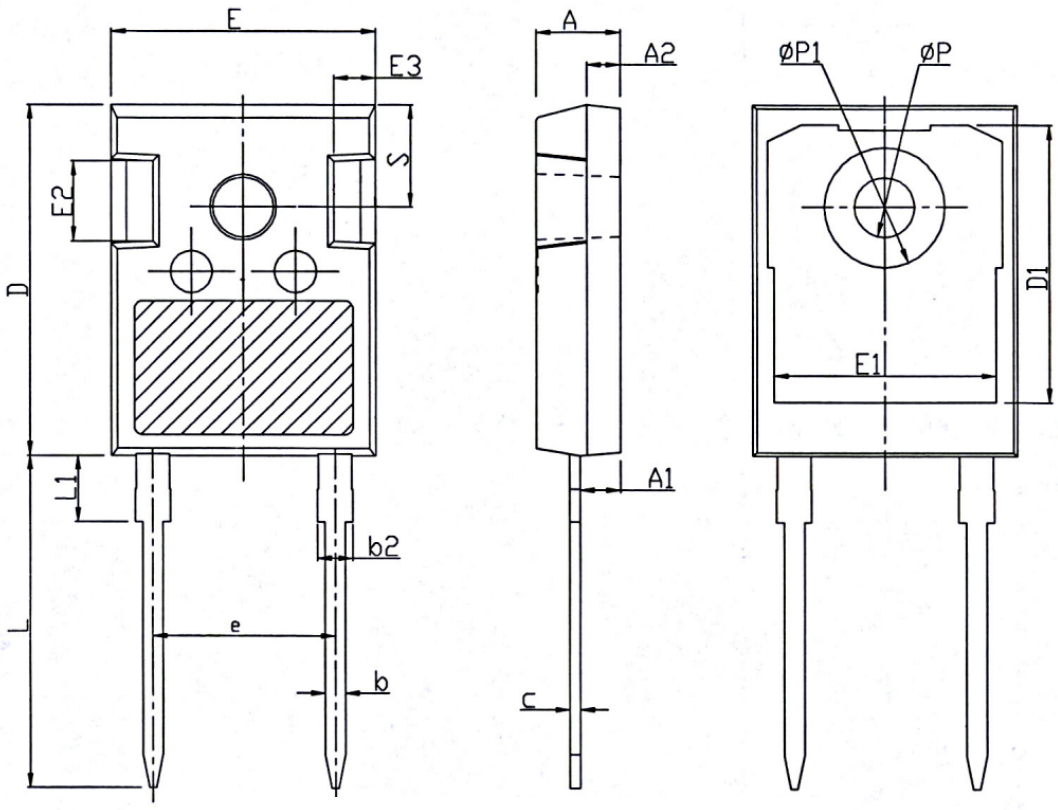


Figure 3: Junction Capacitance vs Reverse Voltage



Package Information:

TO-247-2L



SYMBOL	mm		
	MIN	NOM	MAX
A	4.80	5.00	5.20
A1	2.21	2.41	2.61
A2	1.85	2.00	2.15
b	1.11	1.21	1.36
b2	0.91	2.01	2.21
c	0.51	0.61	0.75
D	20.70	21.00	21.30
D1	16.25	16.55	16.85
E	15.50	15.80	16.10
E1	13.00	13.30	13.60
E2	4.80	5.00	5.20
E3	2.30	2.50	2.70
e	10.88BSC		
L	19.62	19.92	20.22
L1	-	-	4.30
ΦP	3.40	3.60	3.80
ΦP1	-	-	7.30
S	6.15BSC		

Ordering and Marking Information

Device Marking: HY3060W

Package (Available)
TO-247-2L
Operating Temperature Range
C : -55 to 175 ºC

Devices per Unit

Package Type	Units/ Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Carton Box	Units/Carton Box
TO-247-2L	30	11	330	6	1980

Reliability Test Program

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

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