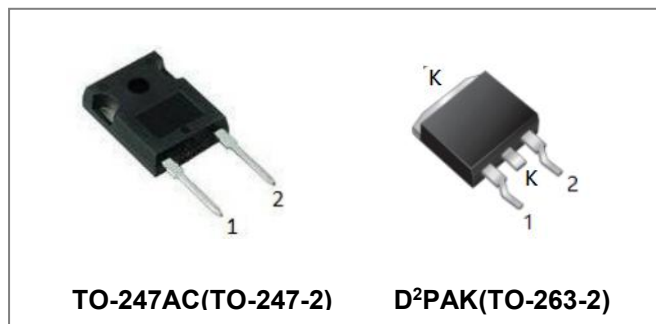


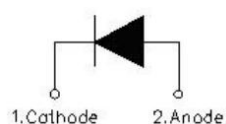
S3D30065H S3D30065G 650V SIC POWER SCHOTTKY RECTIFIER



Description

S3D30065H/S3D30065G are SiC Schottky rectifiers packaged in TO-247AC(TO-247-2)/D²PAK(TO-263-2) case. The device is a high voltage Schottky rectifier that has very low total conduction losses and very stable switching characteristics over temperature extremes. The S3D30065H/S3D30065G are ideal for energy sensitive, high frequency applications in challenging environments.

Circuit Diagram



TO-247AC(TO-247-2)



D²PAK(TO-263-2)

Features

- 175°C T_J operation
- Ultra-low switching loss
- Switching speeds independent of operating temperature
- Low total conduction losses
- High forward surge current capability
- High package isolation voltage
- Terminals finish: 100% Pure Tin
- Pb – Free Device
- All SMC parts are traceable to the wafer lot
- Additional electrical and life testing can be performed upon request

Applications

- Alternative energy inverters
- Power Factor Correction (PFC)
- Free-Wheeling diodes
- Switching supply output rectification
- Reverse polarity protection

Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	-	650	V
Average Rectified Forward Current	I _{F (AV)}	50% duty cycle @T _c =145°C, rectangular wave form	30	A
Peak One Cycle Non-Repetitive Surge Current	I _{FSM}	8.3ms, Half Sine pulse, T _J =25°C	150	A
Repetitive Peak Forward Surge Current	I _{FRM}	8.3ms, Half Sine pulse, T _J =25°C	75	A

Electrical Characteristics:

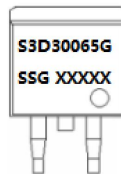
Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	V _{F1}	@ 30A, Pulse, T _J = 25 °C	1.50	1.75	V
	V _{F2}	@ 30A, Pulse, T _J = 175 °C	1.72	2.40	V
Reverse Current at DC condition*	I _{R1}	@V _R = rated V _R T _J = 25 °C	-	200	uA
Reverse Current *	I _{R2}	@V _R = rated V _R T _J = 175 °C	-	600	uA
Junction Capacitance	C _T	V _R =1V, T _J =25°C, f=100kHz	1705	-	nF

* Pulse width < 300 μs, duty cycle < 2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	S3D30065H	S3D30065G	Units
Junction Temperature	T _J	-55 to +175		°C
Storage Temperature	T _{stg}	-55 to +175		°C
Typical Thermal Resistance Junction to Case	R _{θJC}	0.61	1.65	°C/W

Marking Diagram

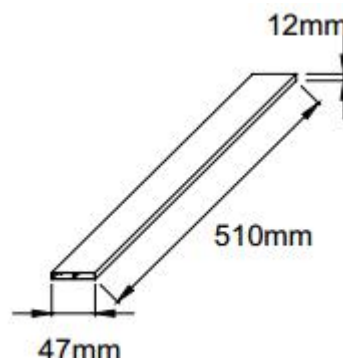


Where XXXXX is YYWWL

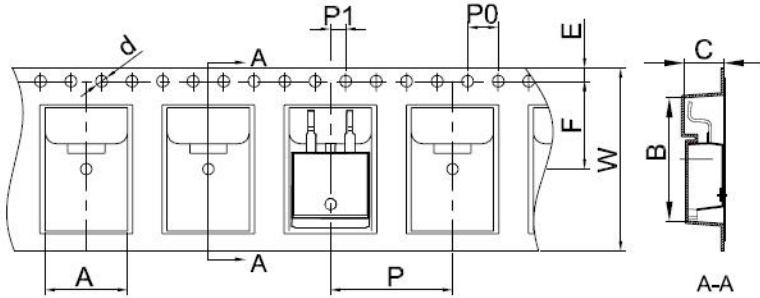
S3D = Device Type
30 = Forward Current (30A)
065 = Reverse Voltage (650V)
H/G = Package type
SSG = SSG
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Tube Specification TO-247AC(TO-247-2)



Carrier Tape & Reel Specification D2PAK(TO-263-2)



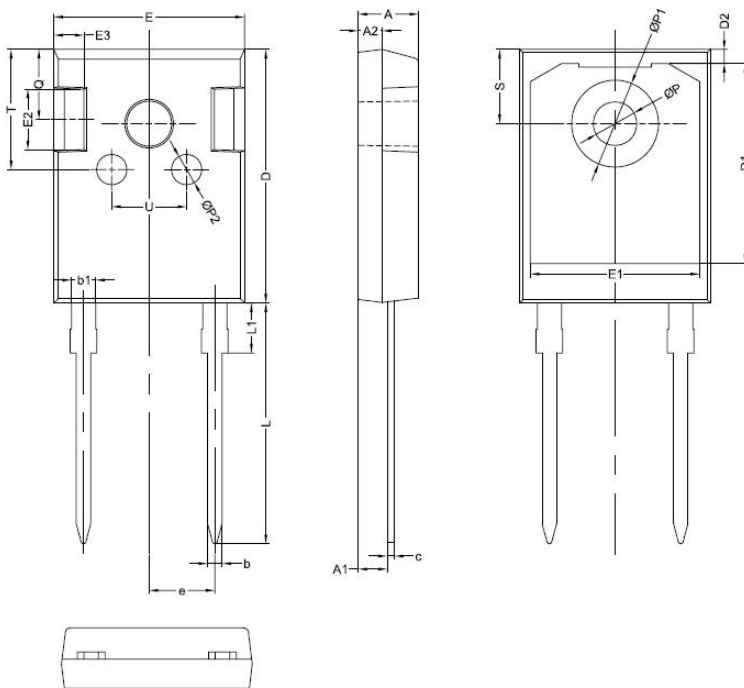
SYMBOL	Millimeters	
	Min.	Max.
A	10.70	10.90
B	16.03	16.23
C	5.11	5.31
d	1.45	1.65
E	1.65	1.85
F	11.40	11.60
P0	3.90	4.10
P	15.90	16.10
P1	1.90	2.10
W	23.90	24.30

Ordering Information

Device	Package	Shipping
S3D30065H	TO-247AC(TO-247-2)	25pcs / tube
S3D30065G	D ² PAK(TO-263-2)	800pcs / reel

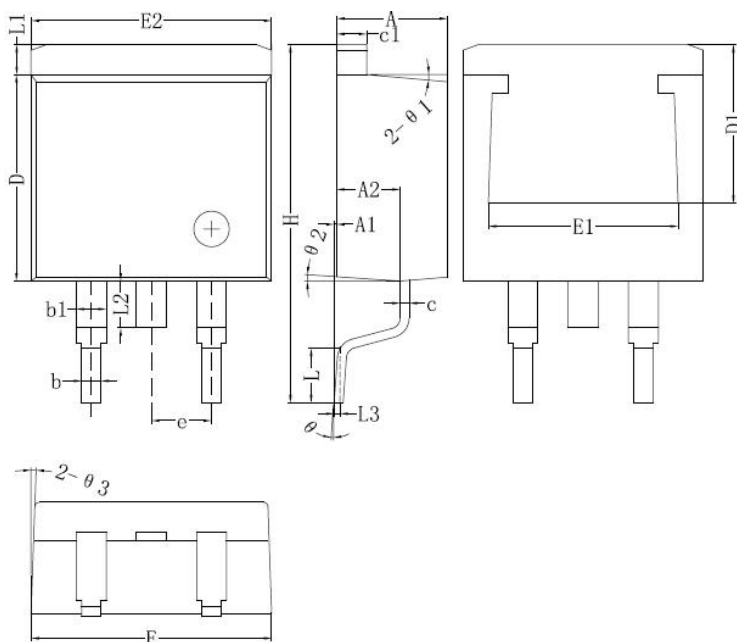
For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Mechanical Dimensions TO-247AC(TO-247-2)



SYMBOL	Millimeters		
	MIN.	TYP.	MAX.
A	4.80	5.00	5.20
A1	2.20	2.41	2.61
A2	1.90	2.00	2.10
b	1.10	1.20	1.35
b1	1.80	2.00	2.20
c	0.50	0.60	0.75
D	20.30	21.00	21.20
D1		16.58	
D2		1.17	
E	15.60	15.80	16.00
E1		14.02	
E2		5.00	
E3		2.50	
e		5.44	
L	19.42	19.92	20.42
L1		4.13	
P	3.50	3.60	3.70
P1	7.1	7.19	7.40
P2		2.50	
Q		5.80	
S	6.05	6.15	6.25
T		10.00	
U		6.20	

Mechanical Dimensions D²PAK(TO-263-2)



Symbol	Dimensions in millimeters		
	Min.	Typical	Max.
A	4.55	4.70	4.85
A1	0	0.10	0.25
A2	2.59	2.69	2.89
b	0.71	0.81	0.96
b1		1.27	
c	0.36	0.38	0.61
c1	1.17	1.27	1.37
D	8.55	8.70	8.85
D1	6.40		
E	10.01	10.16	10.31
E1	7.6		
E2	9.98	10.08	10.18
e		2.54	
H	14.6	15.1	15.6
L	2.00	2.30	2.70
L1	1.17	1.27	1.40
L2			2.20
L3		0.25BSC	
θ	0	-	8°
θ1		5°	
θ2		4°	
θ3		4°	

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