



**Maximum Ratings:**

Characteristics	Symbol	Condition	Max.	Units
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_{DC}$	-	650	V
Average Rectified Forward Current	$I_{F(AV)1}$	$T_C=25^{\circ}C$	128	A
	$I_{F(AV)2}$	$T_C=125^{\circ}C$	70	A
	$I_{F(AV)3}$	$T_C=138^{\circ}C$	60	A
Repetitive Peak Forward Surge Current	$I_{FRM1}$	10ms, Half Sine pulse, $T_C=25^{\circ}C$	240	A
	$I_{FRM2}$	10ms, Half Sine pulse, $T_C=110^{\circ}C$	160	A
Peak One Cycle Non-Repetitive Surge Current	$I_{FSM1}$	10ms, Half Sine pulse, $T_C=25^{\circ}C$	500	A
	$I_{FSM2}$	10ms, Half Sine pulse, $T_C=110^{\circ}C$	340	A
Power Dissipation	$P_{tot1}$	$T_C=25^{\circ}C$	484	W
	$P_{tot2}$	$T_C=110^{\circ}C$	209	W

**Electrical Characteristics:**

Characteristics	Symbol	Condition	Typ.	Max.	Units
Forward Voltage Drop*	$V_{F1}$	@ 60A, Pulse, $T_J = 25^{\circ}C$	1.4	1.7	V
	$V_{F2}$	@ 60A, Pulse, $T_J = 175^{\circ}C$	1.6	2.0	V
Reverse Current*	$I_{R1}$	@ $V_R = \text{rated } V_R$ , $T_J = 25^{\circ}C$	8	50	$\mu A$
	$I_{R2}$	@ $V_R = \text{rated } V_R$ , $T_J = 175^{\circ}C$	80	200	$\mu A$
Junction Capacitance	$C_T$	$V_R=0V$ , $T_J=25^{\circ}C$ , $f=1MHz$	4600	-	pF
Reverse Recovery Charge	$Q_c$	$I_F = 60A$ , $di/dt=200A/\mu s$ $V_R = 400V$ , $T_J = 25^{\circ}C$	286.9	-	nC
Capacitance Stored Energy	$E_C$	$V_R = 400V$ , $T_J = 25^{\circ}C$	70.3	-	$\mu J$

\* Pulse width < 300  $\mu s$ , duty cycle < 2%

**Thermal-Mechanical Specifications:**

Characteristics	Symbol	S3D60065H2	Units
Junction Temperature	$T_J$	-55 to +175	$^{\circ}C$
Storage Temperature	$T_{stg}$	-55 to +175	$^{\circ}C$
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.31	$^{\circ}C/W$

## Ordering Information

Device	Package	Plating	Shipping
S3D60065H2	TO-247AC(TO-247-2)	Pure Sn	25pcs / tube

## Ratings and Characteristics Curves

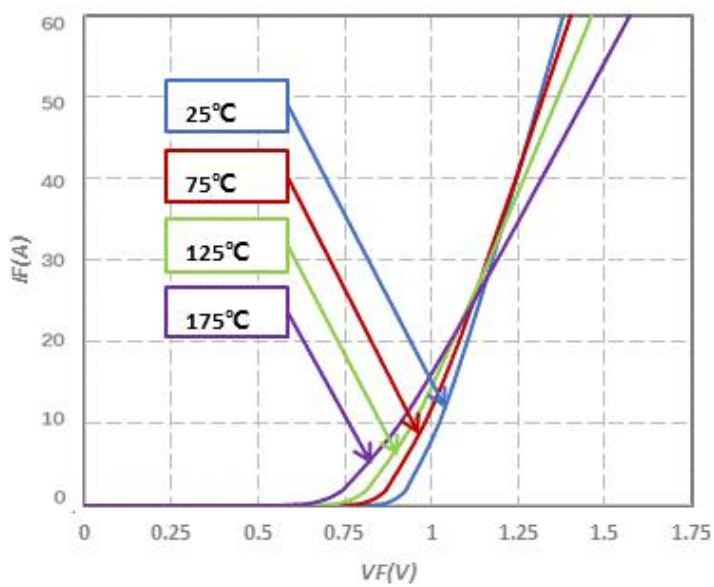


Fig.1-Typical Forward Voltage Characteristics

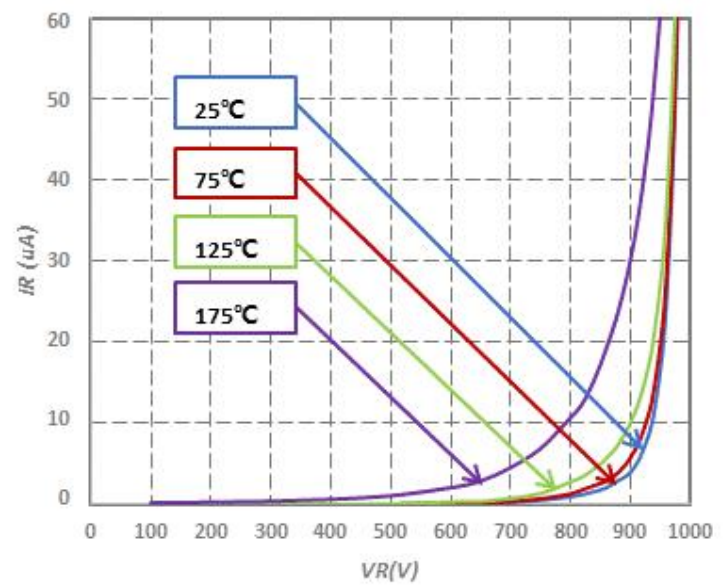


Fig.2-Typical Reverse Characteristics

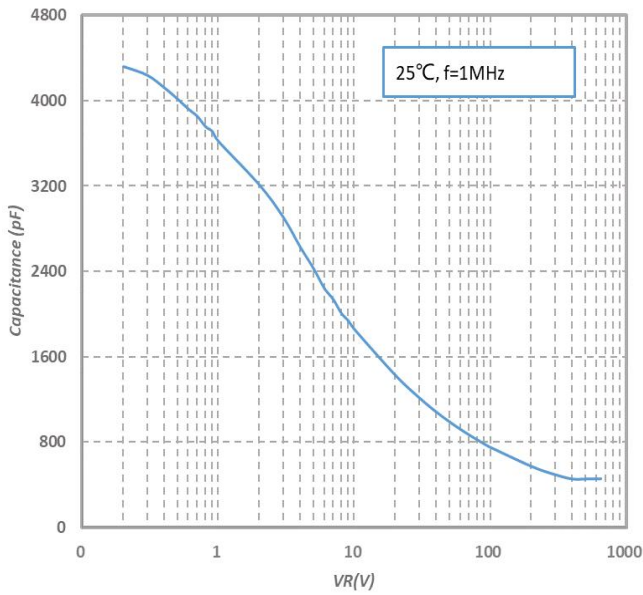


Fig.3-Capacitance vs. Reverse Voltage

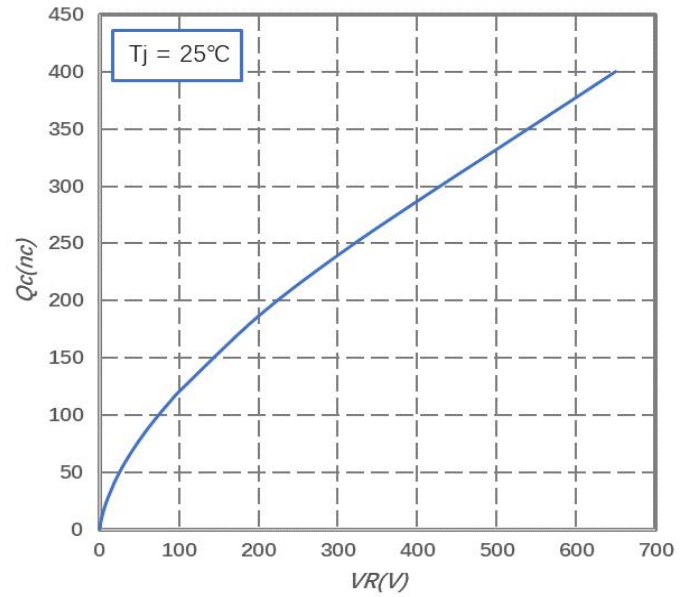


Fig.4-Total Capacitance Charge vs. Reverse Voltage

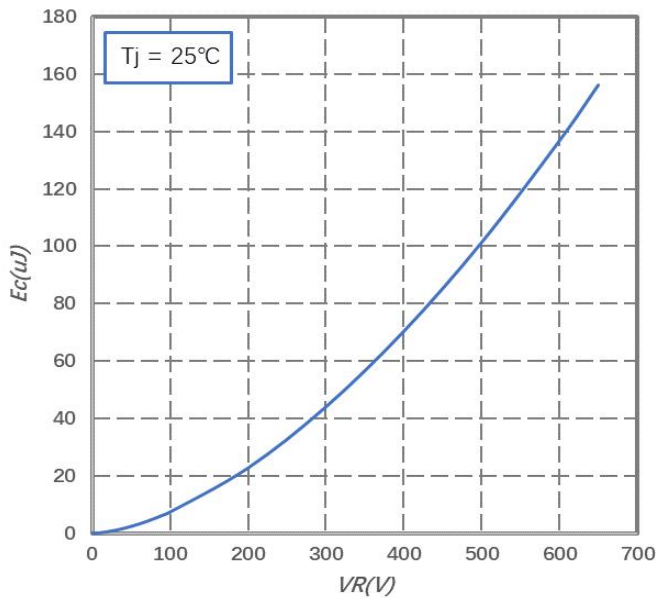


Fig.5-Capacitance Stored Energy

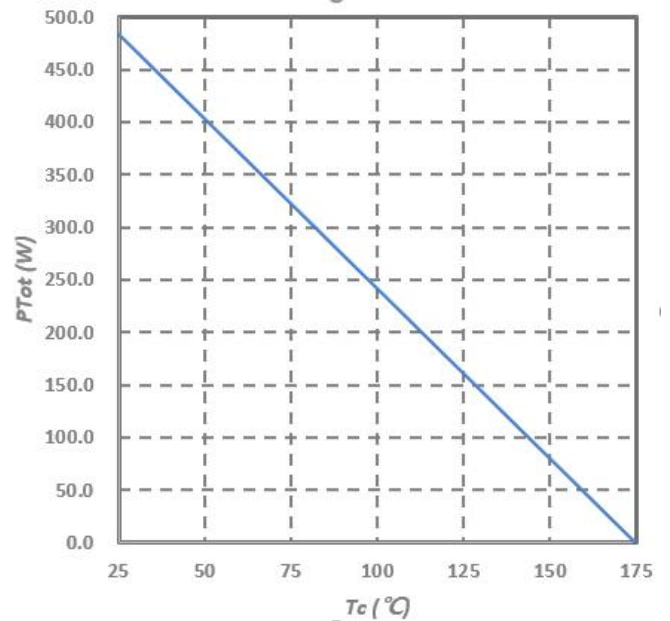


Fig.6-Power Derating

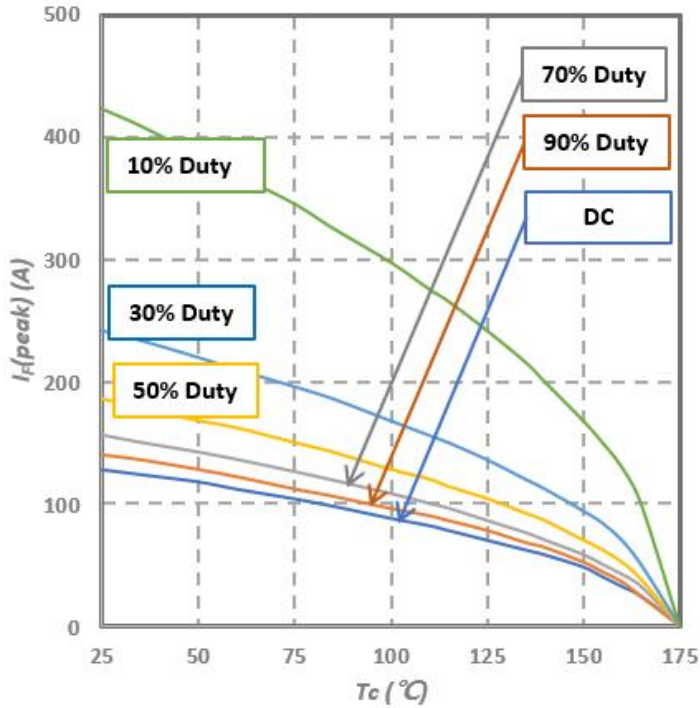
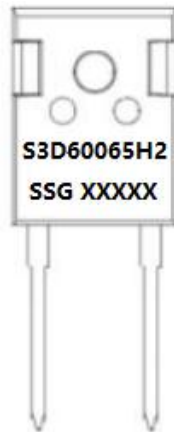


Fig.7-Current Derating

## Marking Diagram

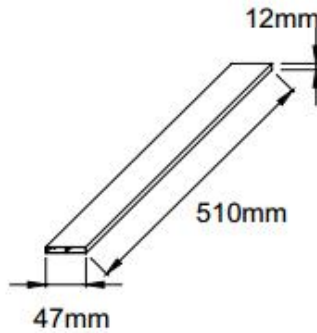


Where XXXXX is YYWWL

S3D = Device Type  
H = Package type  
60 = Forward Current (60A)  
065 = Reverse Voltage (650V)  
SSG = SSG  
YY = Year  
WW = Week  
L = Lot Number

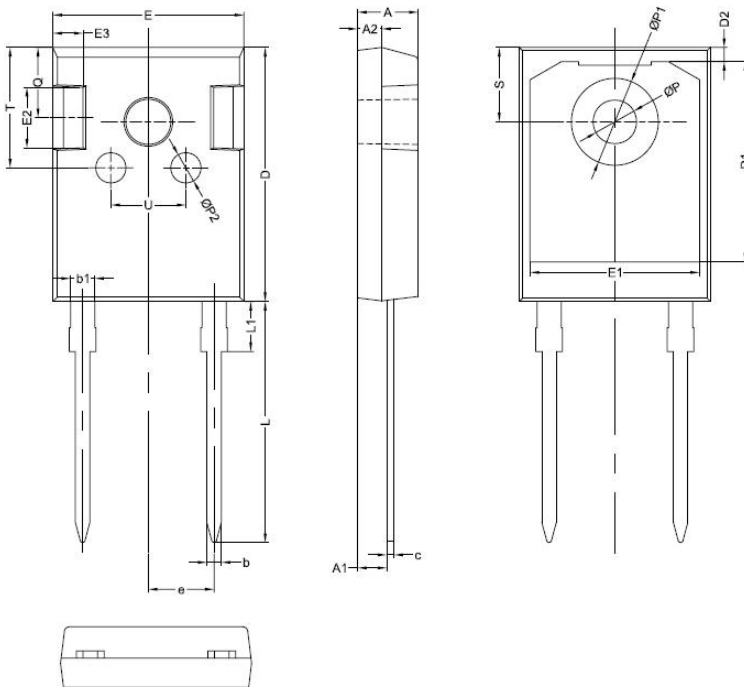
**Cautions:** Molding resin  
Epoxy resin UL:94V-0

**Tube Specification**



**TO-247AC(TO-247-2)**

**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	

**Technical Data**  
**Data Sheet N2616, REV.-**



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