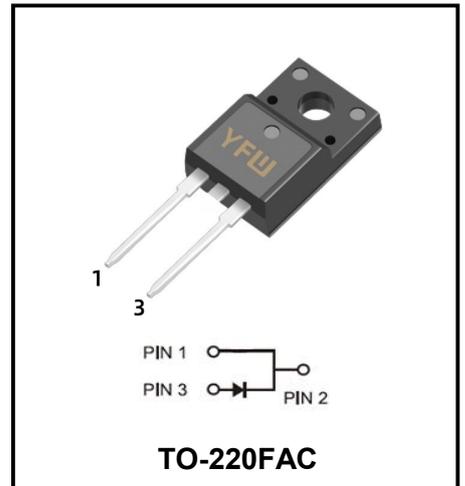


**SIC SCHOTTKY BARRIER DIODE**

**Reverse Voltage - 650 V**

**Forward Current - 15 A**



**FEATURES**

- ◆650-Volt SiC JBS Rectifier
- ◆Zero Reverse Recovery
- ◆Positive Temperature Coefficient on VF
- ◆Temperature-Independent Switching Behavior
- ◆Extremely Fast Switching
- ◆Extremely Low Leakage Current

**TYPICAL APPLICATIONS**

- ◆Uninterruptible power supply
- ◆Switch mode power supply
- ◆Power factor correction
- ◆Solar inverter

**BENEFITS**

- ◆High-speed switching
- ◆Low heat dissipation requirements
- ◆Reduced EMI
- ◆High-reliability

**Maximum Ratings at Ta=25°C unless otherwise specified**

Parameter	Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	650	V
Continuous Forward Current for Rth(j- c,max)	$I_F$	$T_C = 25^{\circ}C$	42
		$T_C = 110^{\circ}C$	26
		$T_C = 147^{\circ}C$	15
Peak Forward Surge Current,8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	$I_{FSM}$	93	A
Operating Temperature Range	$T_J$	175	°C
Storage Temperature Range	$T_{STG}$	-55 to +175	°C
Typical Thermal Resistance	$R_{\theta JC}$	1.09	°C/W

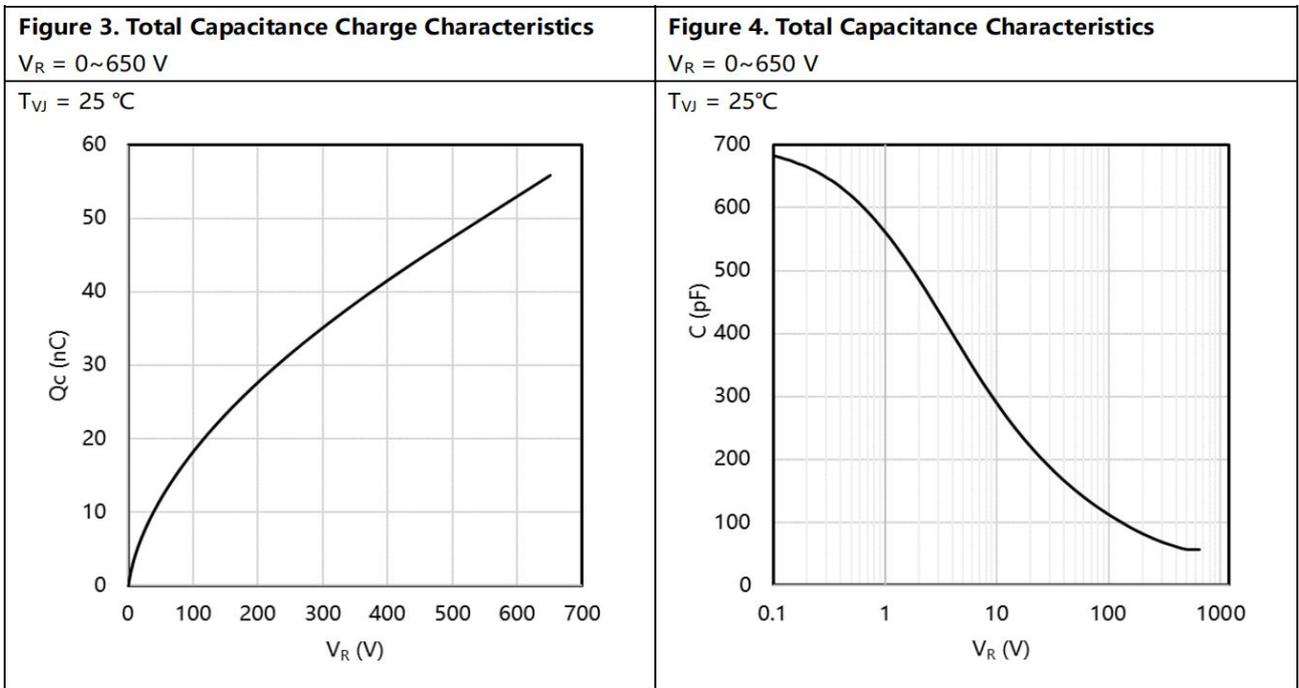
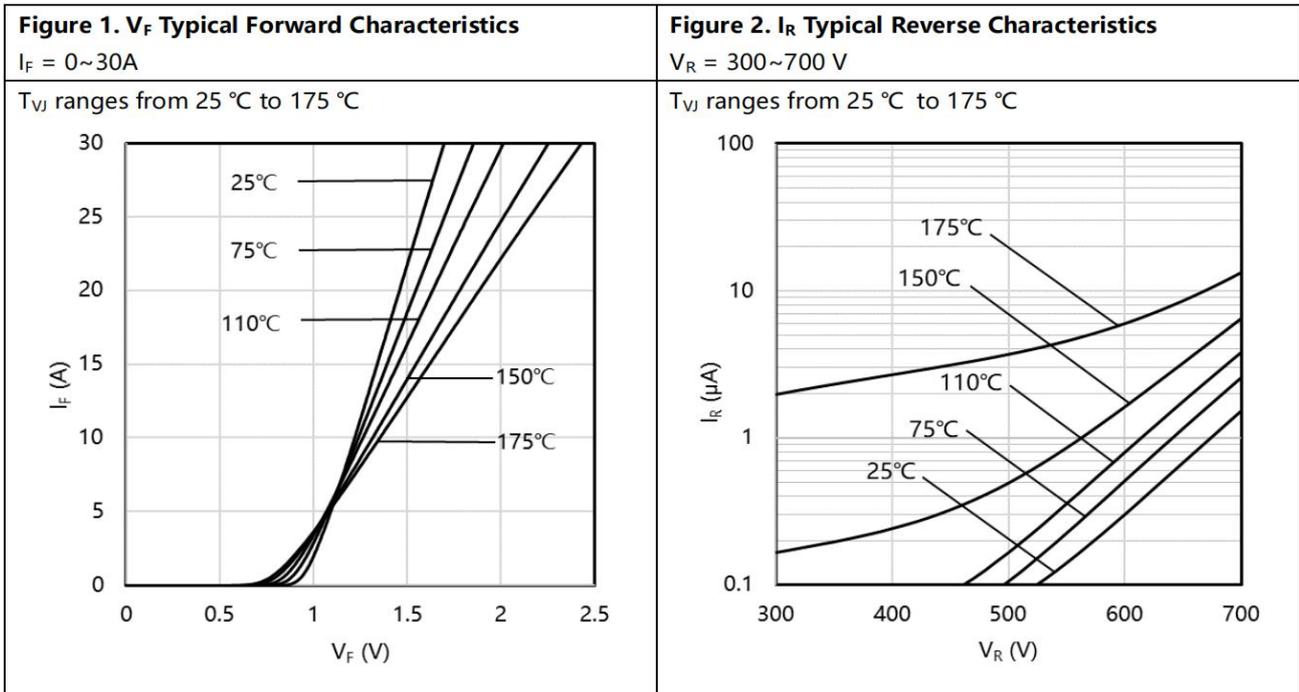
Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

**Electrical Characteristics unless otherwise specified**

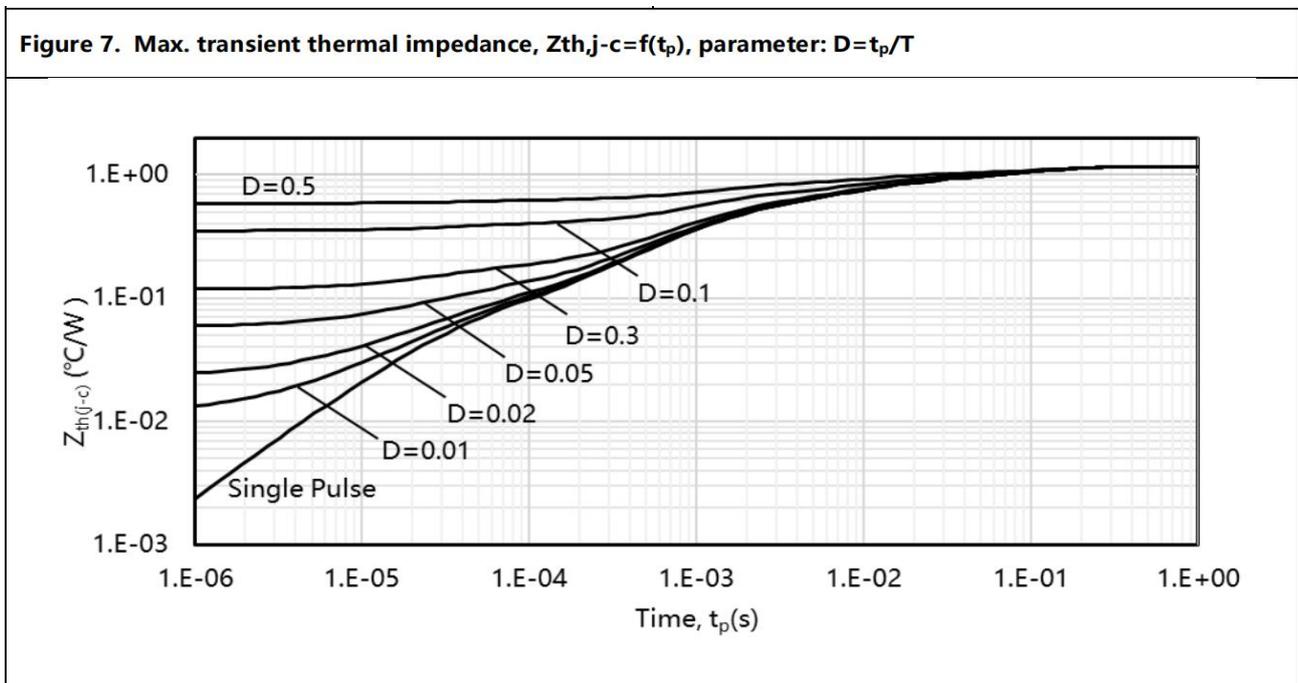
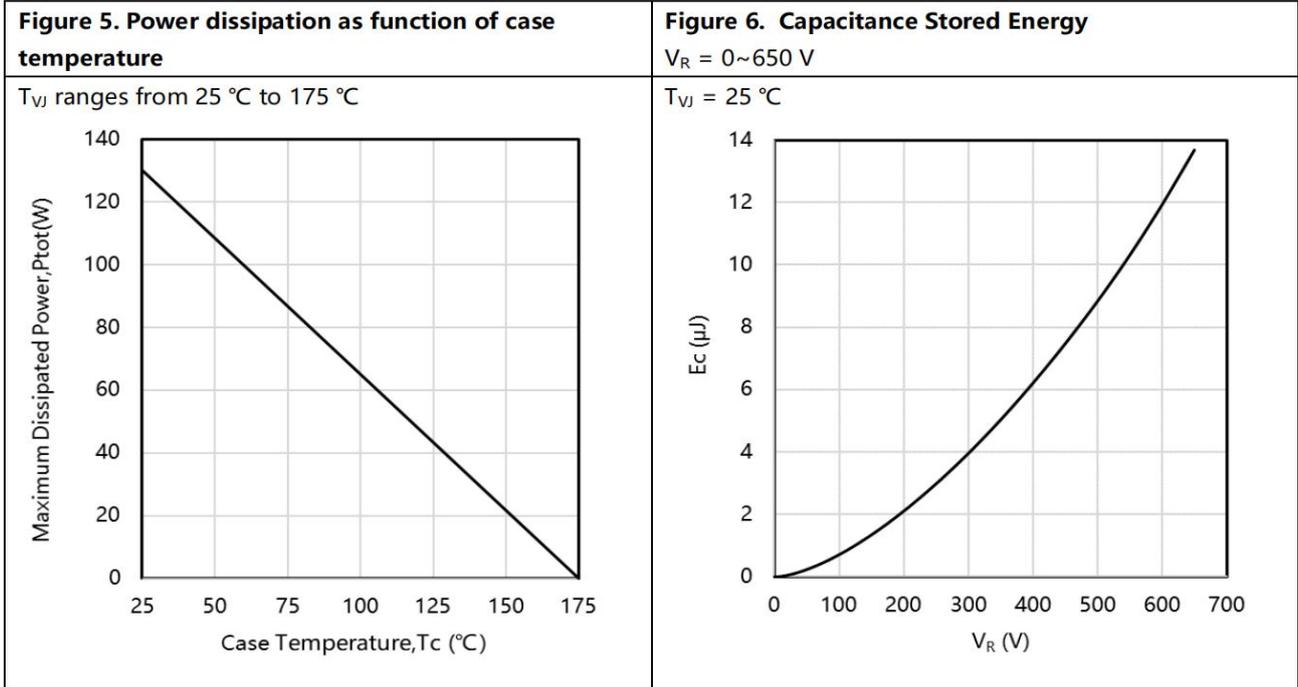
Parameter		Symbol	Value			Unit
			Min	Typ	Max	
Forward Voltage Drop(Note2)		<b>V<sub>DC</sub></b>	-	650	-	<b>V</b>
$I_R = 100\mu A$						
at $I_F=15A$	$T_A=25^\circ C$	<b>V<sub>F</sub></b>	-	1.34	1.6	<b>V</b>
	$T_A=175^\circ C$		-	1.61	-	
Maximum Reverse Current at $V_R=650V$	$T_A=25^\circ C$	<b>I<sub>R</sub></b>	-	1	50	<b><math>\mu A</math></b>
	$T_A=175^\circ C$		-	8.5	-	
Total capacitive charge	$V_R = 400V$	<b>Q<sub>c</sub></b>	-	42	-	<b>nC</b>
Total capacitance	$V_R = 1V, f = 1MHz$	<b>C</b>	-	567	-	<b>pF</b>
	$V_R = 200V, f = 1MHz$		-	82	-	
	$V_R = 400V, f = 1MHz$		-	61	-	
Capacitance stored energy	$V_R = 400V$	<b>E<sub>c</sub></b>	-	6.2	-	<b><math>\mu J</math></b>

**Note:Pulse test: 300  $\mu s$  pulse width, 1 % duty cycle**

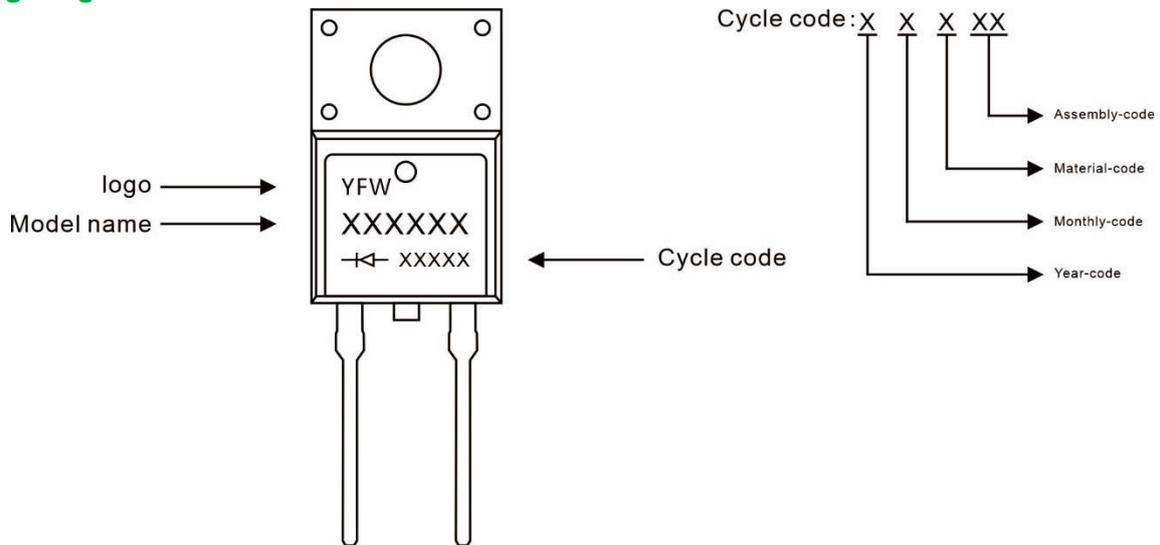
**RATINGS AND CHARACTERISTIC CURVES**



**RATINGS AND CHARACTERISTIC CURVES**



**Marking Diagram**



**Ordering information**

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFWD315065FAC	TO-220FAC	0.06oz(1.7g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

**Package Dimensions**

**TO-220FAC**

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	9.95	10.25	0.392	0.404
B	2.95	3.25	0.116	0.128
C	1.25	1.45	0.049	0.057
E	12.95	13.25	0.51	0.52
F	0.40	0.60	0.016	0.024
G	1.30	1.45	0.051	0.057
H	TYP2.54		TYP 0.1	
I	TYP5.08		TYP 0.2	
J	4.60	4.75	0.181	0.187
K	2.45	2.65	0.097	0.104
L	6.5	6.8	0.256	0.268
M	15.4	16.0	0.606	0.630
N	2.75	3.05	0.108	0.120
O	0.45	0.55	0.018	0.022
P	0.6	0.8	0.024	0.032
Q	0.76	0.84	0.030	0.033

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