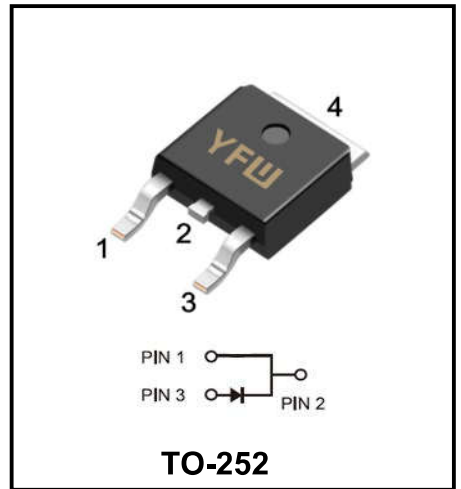


SIC SCHOTTKY BARRIER DIODE

Reverse Voltage - 650 V

Forward Current - 10 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	$T_C = 25^{\circ}C$	27
		$T_C = 110^{\circ}C$	17
		$T_C = 147^{\circ}C$	10
Peak Forward Surge Current,8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	75	A
Operating Temperature Range	T_J	175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C
Typical Thermal Resistance(Note1)	$R_{\theta JC}$	1.55	°C/W

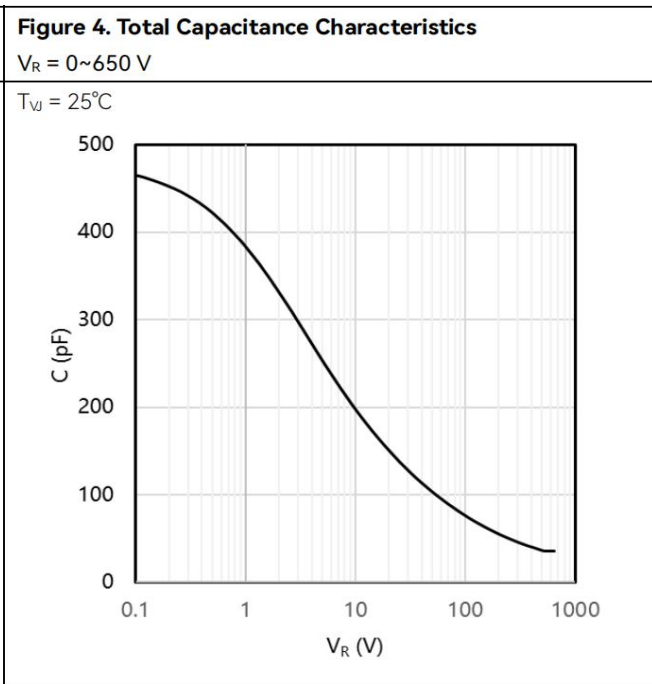
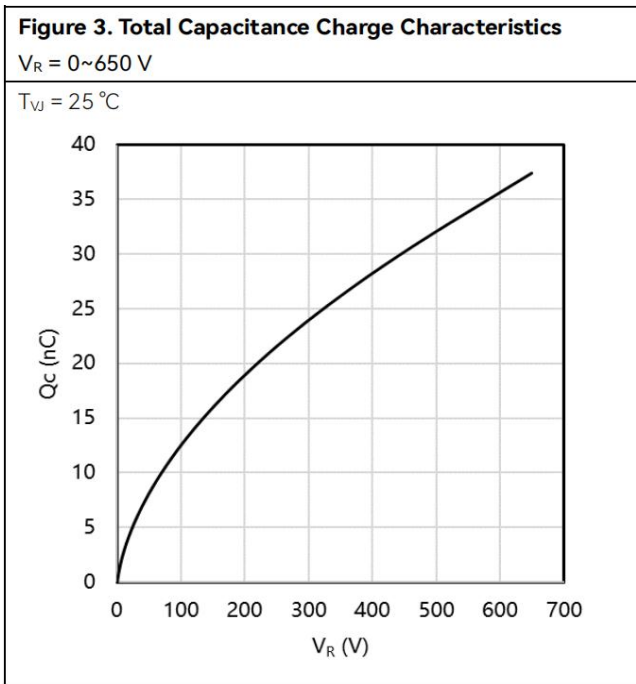
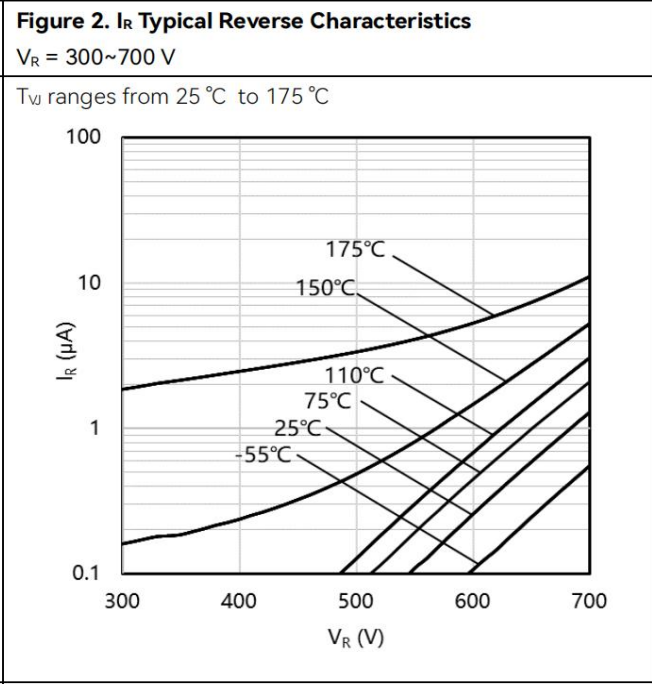
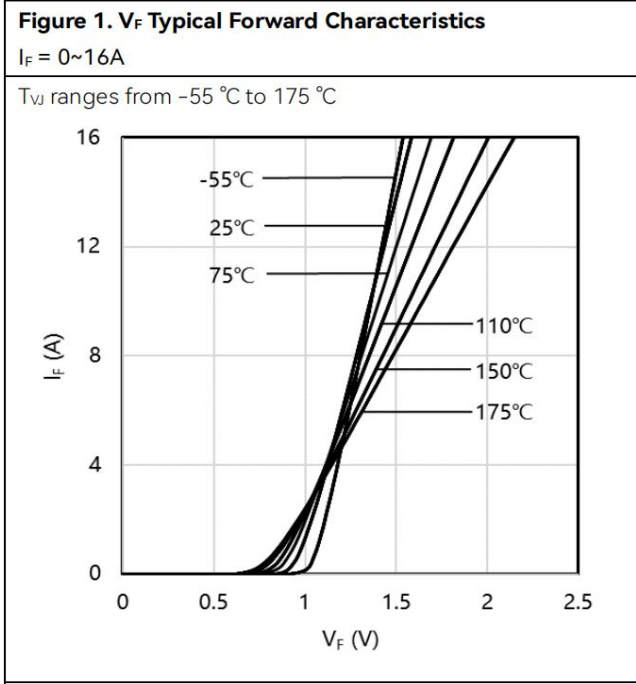
Note1: Thermal resistance from Junction to case per leg mounted on heatsink.

Electrical Characteristics unless otherwise specified

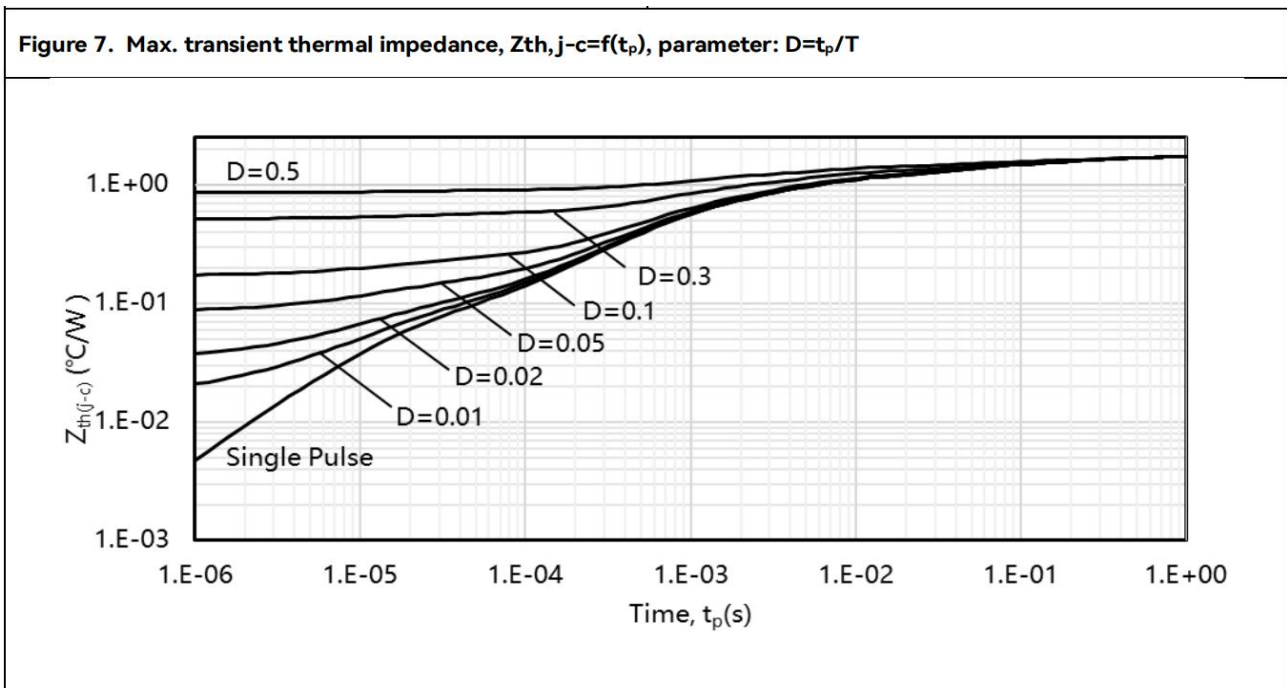
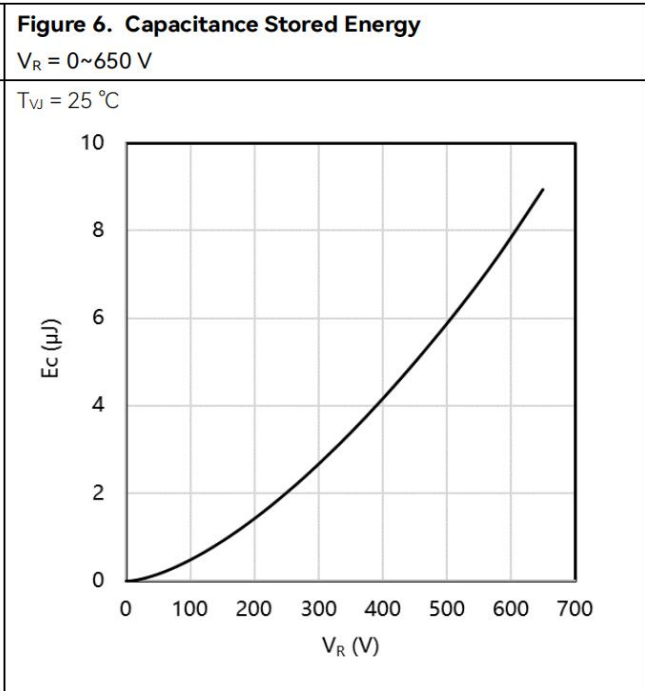
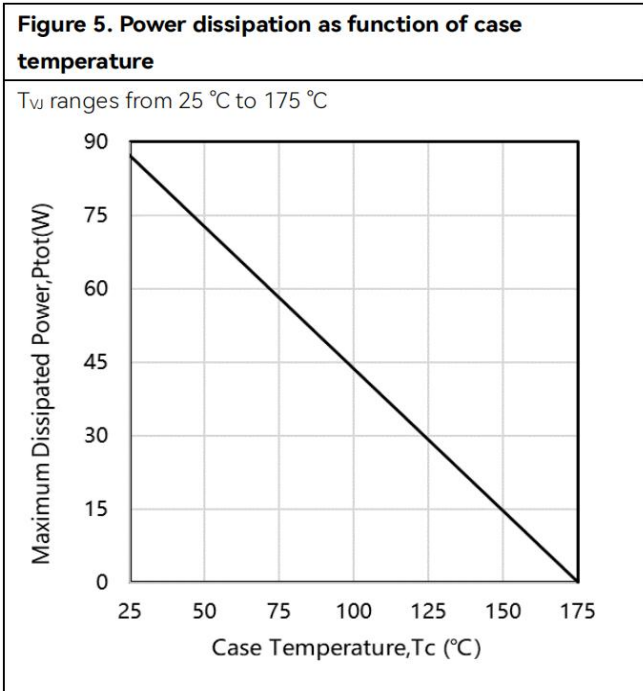
Parameter		Symbol	Value			Unit
			Min	Typ	Max	
Forward Voltage Drop(Note2)		V_{DC}	-	650	-	V
$I_R = 100\mu A$						
at $I_F=10A$	$T_A=25^\circ C$	V_F	-	1.36	1.65	V
	$T_A=175^\circ C$		-	1.66	-	
Maximum Reverse Current at $V_R=650V$	$T_A=25^\circ C$	I_R	-	1	40	μA
	$T_A=175^\circ C$		-	8.5	-	
Total capacitive charge	$V_R = 400V$	Q_c	-	29	-	nC
Total capacitance	$V_R = 1V, f = 1MHz$	C	-	390	-	pF
	$V_R = 200V, f = 1MHz$		-	56	-	
	$V_R = 400V, f = 1MHz$		-	41	-	
Capacitance stored energy	$V_R = 400V$	E_c	-	4.2	-	μJ

Note:Pulse test: 300 μs pulse width, 1 % duty cycle

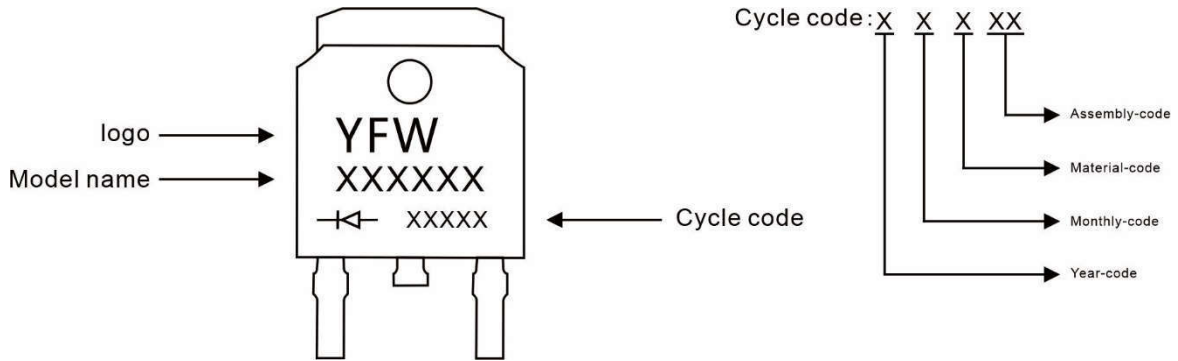
RATINGS AND CHARACTERISTIC CURVES



RATINGS AND CHARACTERISTIC CURVES



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFWD310065CS	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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