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May 2016

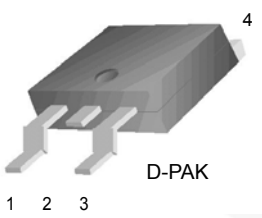
FYD0504SA/FYD0504SATM
Schottky Barrier Rectifiers

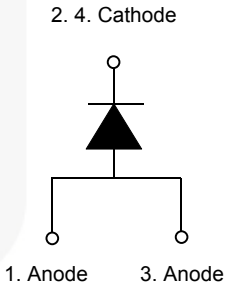
Features

- Low Forward Voltage Drop
- High frequency properties and switching speed
- Guard ring for over-voltage protection
- “TM” is a packing option

Application

- Switched mode power supply
- Freewheeling diodes





Ordering Information

Part Number	Top Mark	Package	Packing Method
FYD0504SA /FYD0504SATM	Y0504	D-PAK	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Ratings	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	40	V
V_R	Maximum DC Reverse Voltage	40	V
$I_{F(AV)}$	Average Forward Rectified Current @ T_C = 135°C	5	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	80	A
T_J	Operating Junction Temperature Range	-65 to +150	°C
T_{STG}	Storage Temperature Range	-65 to +150	°C

Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
$R_{\theta Jc}$(1)	Thermal Resistance, Junction-to-Case	0.75	°C/W

Note:

1. Measurement under infinite cooling condition.

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Value	Unit
V_{FM}	Maximum Instantaneous Forward Voltage(2)	I_F = 5 A, T_A = 25 °C	0.55	V
		I_F = 5 A, T_A = 125 °C	0.49	
		I_F = 10 A, T_A = 25 °C	0.67	
		I_F = 10 A, T_A = 125 °C	0.65	
I_{RM}	Maximum Instantaneous Reverse Current @ rated V_R(2)	T_A = 25 °C	1	mA
		T_A = 125 °C	40	

Note:

2. Pulse test with PW = 300 μs, 2% duty cycle

Typical Performance Characteristics

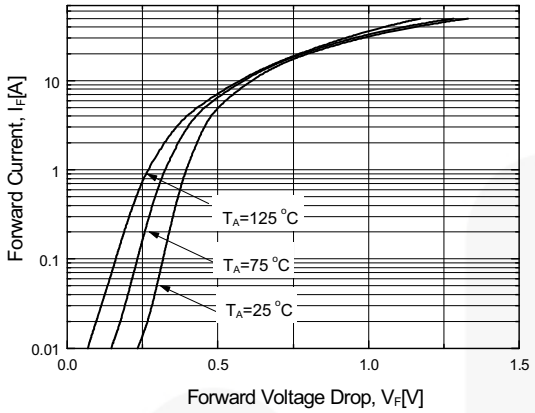


Figure 1. Typical Forward Characteristics

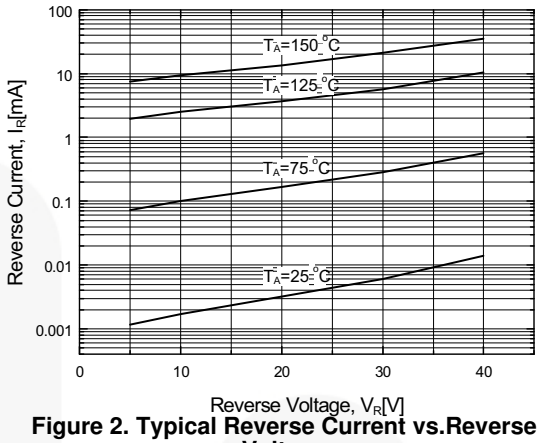


Figure 2. Typical Reverse Current vs.Reverse Voltage

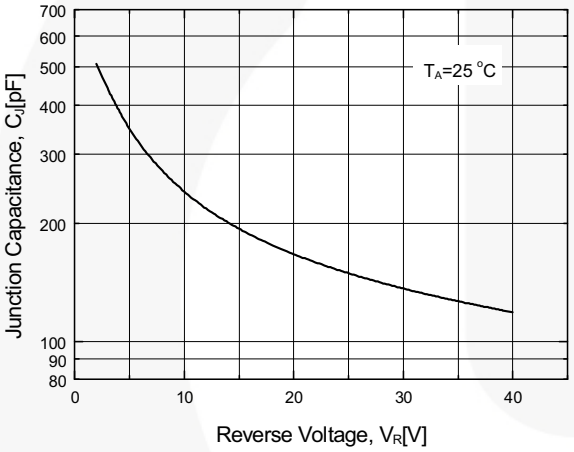


Figure 3. Typical Junction Capacitance

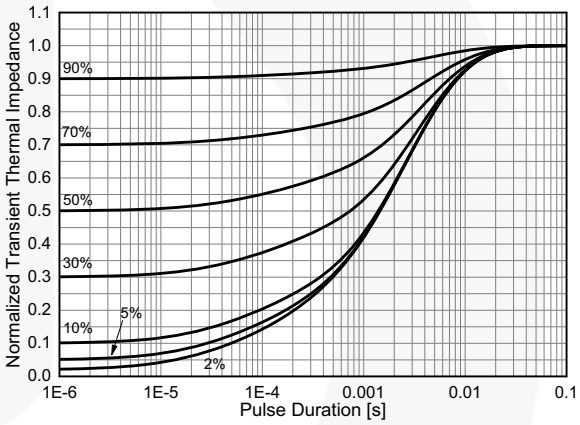


Figure 4. Thermal Impedance Characteristics

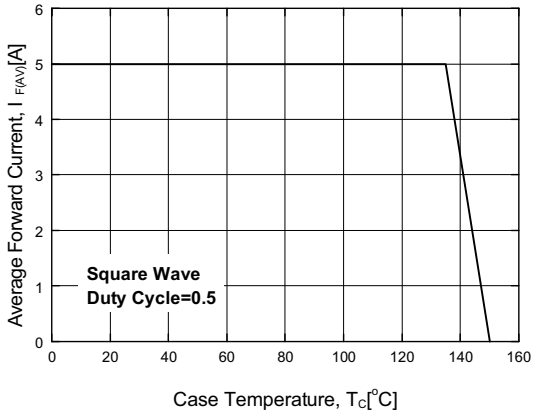


Figure 5. Forward Current Derating Curve

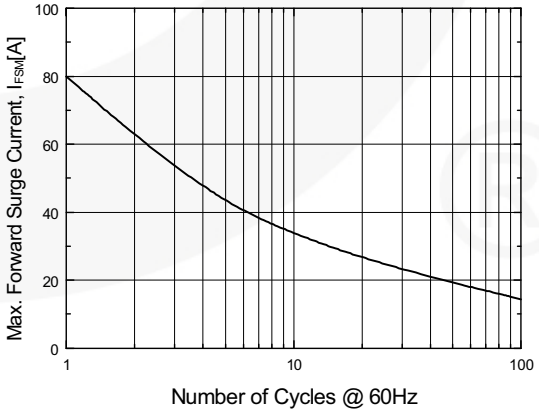
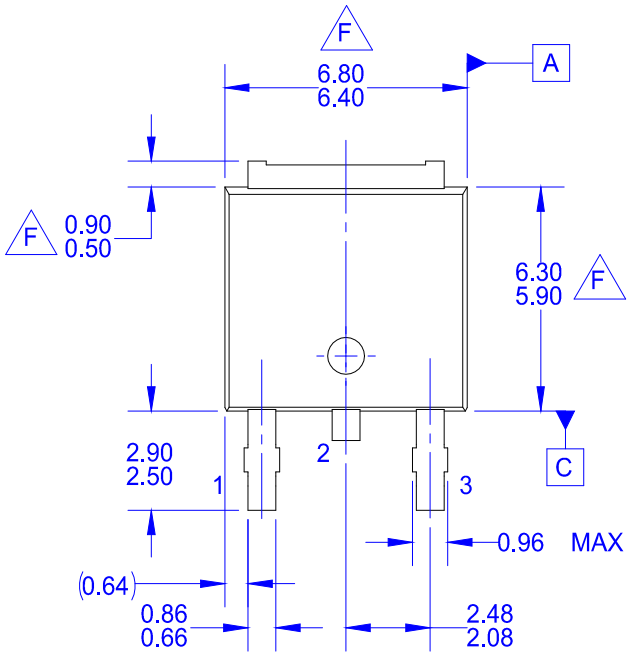
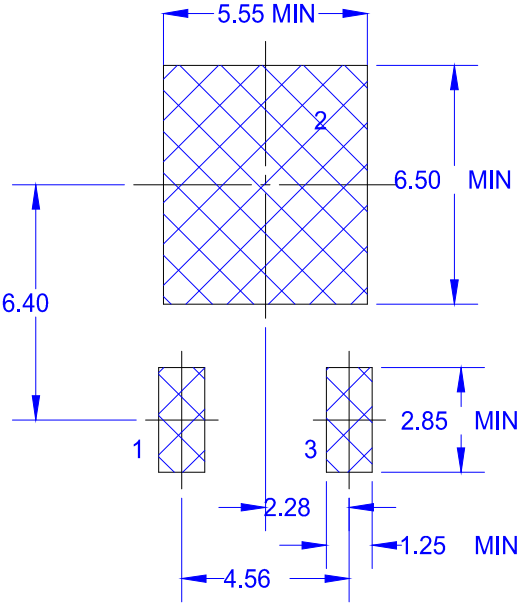
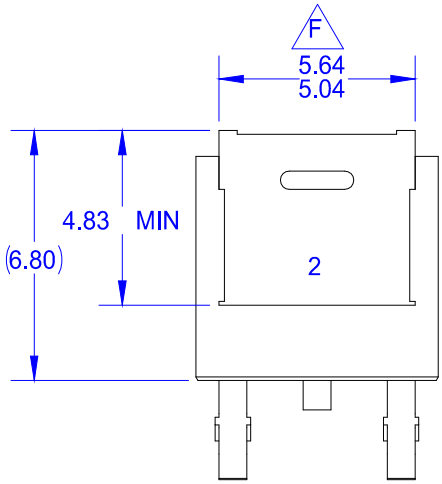


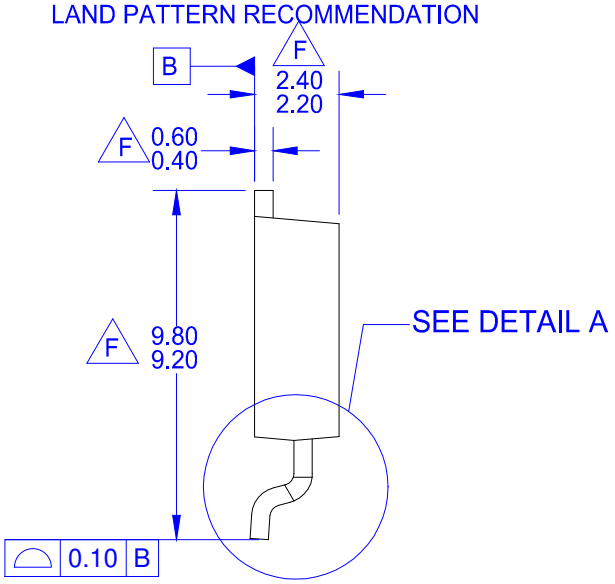
Figure 6. Non-Repetive Surge Current

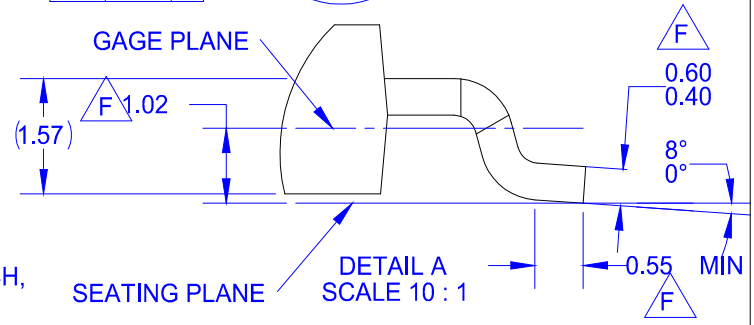




LAND PATTERN RECOMMENDATION







NOTES:UNLESS OTHERWISE SPECIFIED

A) NOT COMPLIANT TO JEDEC TO-252 VARIATION AB
B) ALL DIMENSION ARE IN MILLIMETER
C) DIMENSIONS ARE EXCLUSIVE OF BURRS,MOLD FLASH, AND TIE BAR EXTRUSIONS
D) LAD PATTERN PER IPC7351A ATANDARD TO228P991X239-3N
E) DRAWING FILE NAME:MKT-TO252D03REV4.
F) DOES NOT COMPLY JEDEC STANDARD VALUE.
G) FAIRCHILD SEMICONDUCTOR.

FAIRCHILD

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