



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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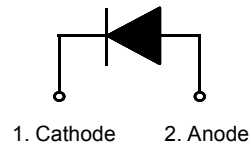
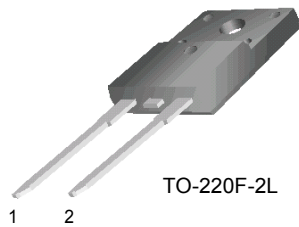
Ultrafast Rectifier

Features

- Ultrafast with soft recovery
(@ $I_F = 1A$), < 35ns
- Reverse Voltage, 200V
- Forward Voltage (@ $T_C = 100^\circ C$), < 1.1V
- Enhanced Avalanche Energy

Applications

- Power switching circuits
- Output rectifiers
- Freewheeling diodes
- Switching mode power supply



Absolute Maximum Ratings (per diode) $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Peak Repetitive Reverse Voltage	200	V
$I_{F(AV)}$	Average Rectified Forward Current @ $T_C = 100^\circ C$	6	A
I_{FSM}	Non-repetitive Peak Surge Current 60Hz Single Half-Sine Wave	60	A
T_J, T_{STG}	Operating Junction and Storage Temperature	- 65 to +150	$^\circ C$

Thermal Characteristics $T_a = 25^\circ C$ unless otherwise noted

Symbol	Parameter	Value	Units
$R_{\theta JC}$	Maximum Thermal Resistance, Junction to Case	4.5	$^\circ C/W$

Electrical Characteristics (per diode) $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Min.	Typ.	Max.	Units
V_{FM}^*	Maximum Instantaneous Forward Voltage $I_F = 6\text{A}$ $I_F = 6\text{A}$	- -	- -	1.15 1.10	V
I_{RM}^*	Maximum Instantaneous Reverse Current @ rated V_R	- -	- -	100 500	μA
t_{rr} I_{rr} Q_{rr}	Reverse Recovery Time Reverse Recovery Current Reverse Recovery Charge ($I_F = 6\text{A}$, $di/dt = 200\text{A}/\mu\text{s}$)	- - -	31 1.6 24.8	- - -	ns A nC
t_{rr}	Maximum Reverse Recovery Time ($I_F = 1\text{A}$, $di/dt = 100\text{A}/\mu\text{s}$)	-	-	35	ns
W_{AVL}	Avalanche Energy (L=40mH)	5	-	-	mJ

* Pulse Test: Pulse Width=300 μs , Duty Cycle=2%

Typical Performance Characteristics

Figure 1. Typical Forward Voltage Drop vs. Forward Current

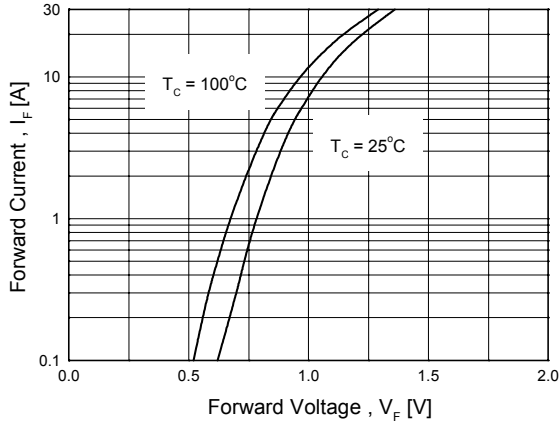


Figure 2. Typical Reverse Current vs. Reverse Voltage

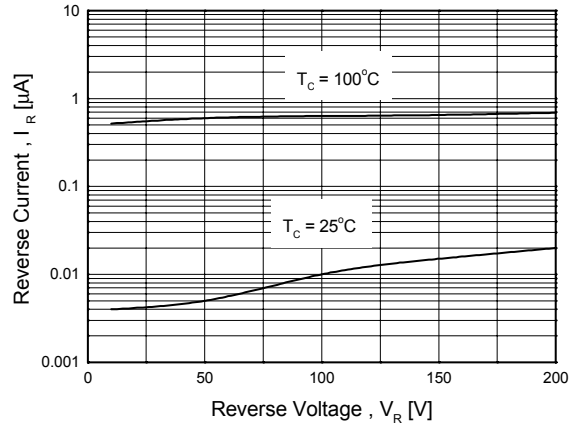


Figure 3. Typical Junction Capacitance

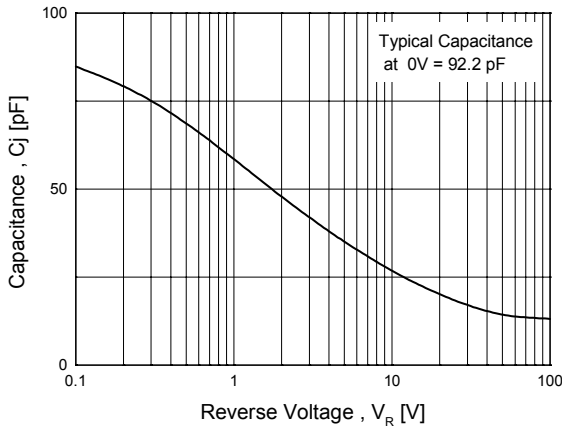


Figure 4. Typical Reverse Recovery Time vs. di/dt

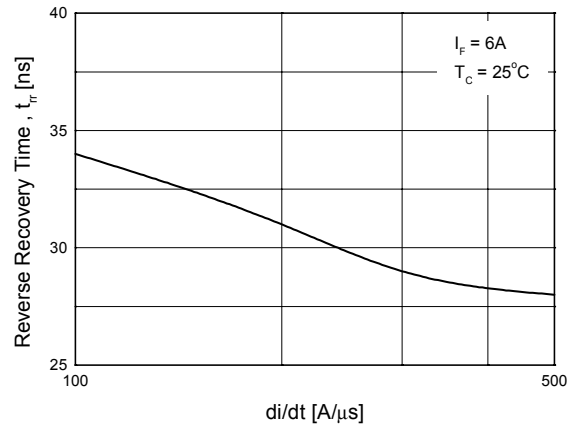


Figure 5. Typical Reverse Recovery Current vs. di/dt

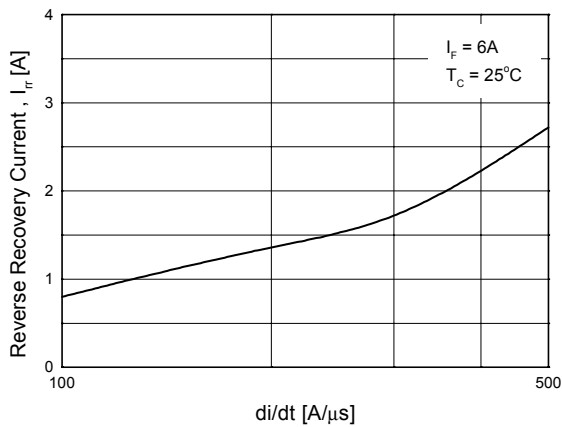
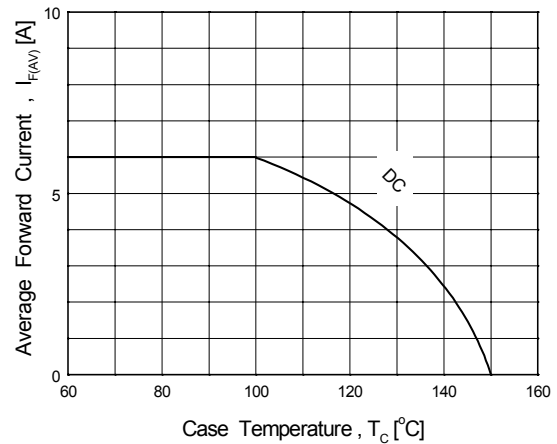
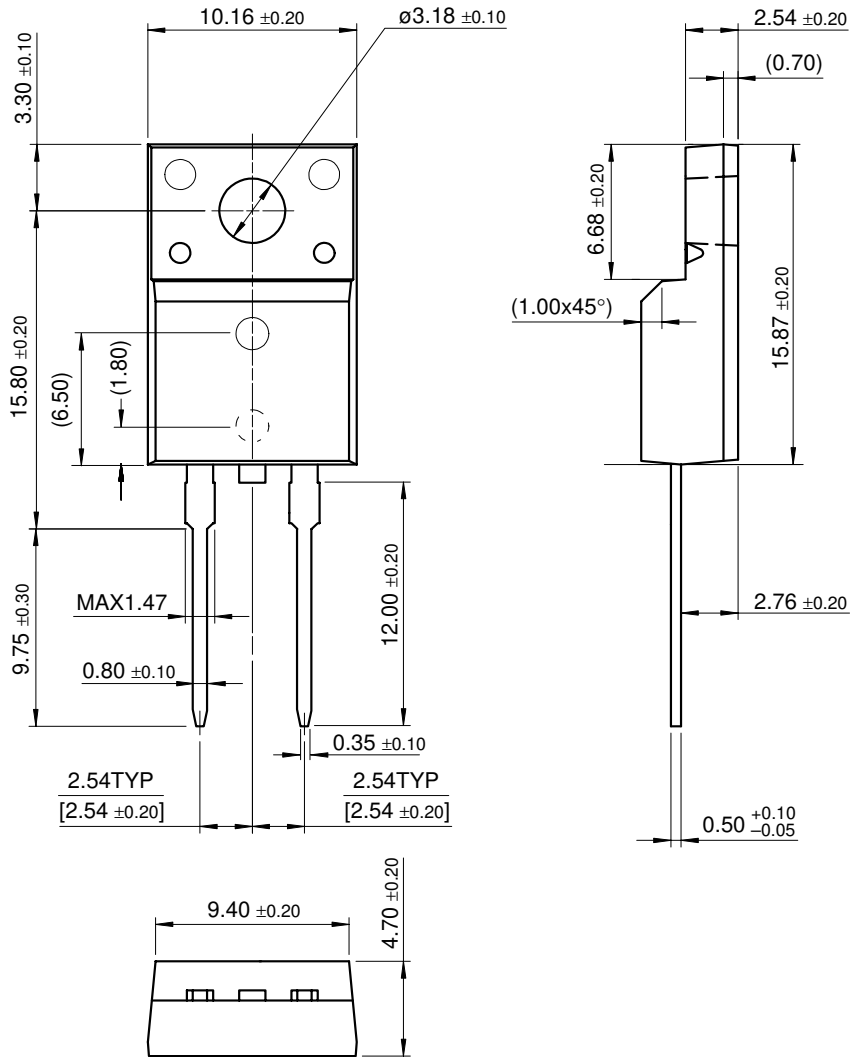


Figure 6. Forward Current Derating Curve



Mechanical Dimensions

TO-220F-2L



Dimensions in Millimeters

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CoolFET™	FRFET™	MICROCOUPLER™	PowerSaver™	SuperSOT™-3
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DOVE™	GTO™	MicroPak™	QFET [®]	SuperSOT™-8
EcoSPARK™	HiSeC™	MICROWIRE™	QS™	SyncFET™
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