

# Fast Recovery Rectifier

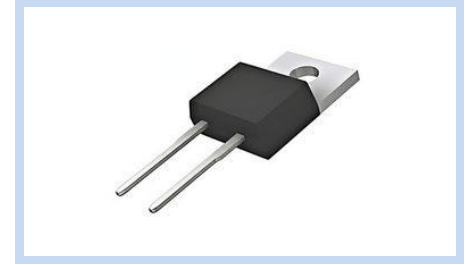
## 1200V 15A TO-220-2

SFD1512AT2202

MERITEK

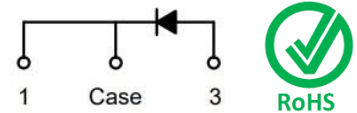
### FEATURE

- High Surge Current Capability
- Fast Recovery with Optimized  $Q_{RR}$
- Optimized for HF Applications with Minimized Switching Losses
- Soft Recovery Characteristic for Better EMI



### APPLICATIONS

- Switching-Mode Power Supply (SMPS)
- Power Factor Correction (PFC) Circuits
- Power Inverters and converters
- Freewheeling / flyback diodes



### MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Maximum Peak Reverse Voltage	$V_{RRM}$	1200	V
Average Forward Rectified Current, Rated $V_R$ , 20KHz Square Wave, 50% Duty Cycle	$I_{F(AV)}$	15	A
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load	$I_{FSM}$	160	A
Thermal Resistance from Junction to Case (per leg)	$R_{\theta JC}$	2	$^{\circ}C/W$
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-40~+175	$^{\circ}C$

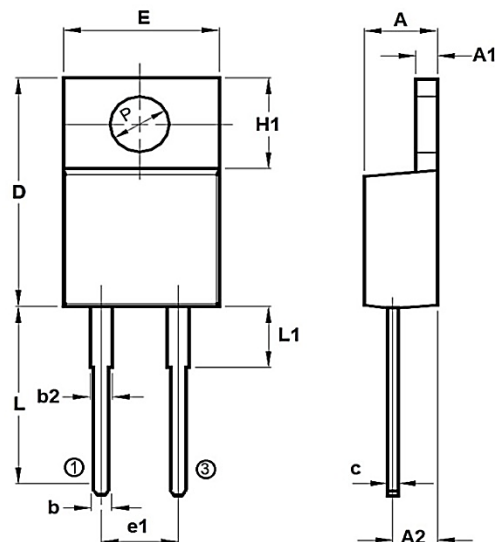
### ELECTRICAL CHARACTERISTICS

Parameter	Conditions	Symbol	Min	Typ.	Max	Unit
Reverse Breakdown Voltage	$I_R=100\mu A, T_J=25^{\circ}C$	$V_{BR}$	1200	-	-	V
Instantaneous Forward Voltage	$I_F=15A, T_J=25^{\circ}C$	$V_F$	-	2.00	2.20	V
	$I_F=15A, T_J=125^{\circ}C$		-	-	1.75	V
Reverse Leakage Current	$V_R=1200V, T_J=25^{\circ}C$	$I_R$	-	-	10	$\mu A$
	$V_R=1200V, T_J=125^{\circ}C$		-	-	1000	
Reverse Recovery Time	$I_F=0.5A, I_R=1.0A, I_{tr}=0.25A, T_J=25^{\circ}C$	$T_{RR}$	-	-	65	nS
Capacitance	$V_R=0V, f=1MHz, T_J=25^{\circ}C$	$C_J$	-	145	-	pF

### DIMENSIONS

Item	Min (mm)	Max (mm)
A	4.45	4.75
A1	1.17	1.37
A2	2.47	2.87
b	0.71	0.91
b2	1.17	1.37
c	0.30	0.50
D	14.80	15.30
e1	5.05 REF	
E	9.83	10.33
H1	6.30	6.40
L	13.30	13.80
L1	3.54	3.94
P	3.835 REF	

Note: Pin Layout: 1:Cathode(K), 3:Anode(A)



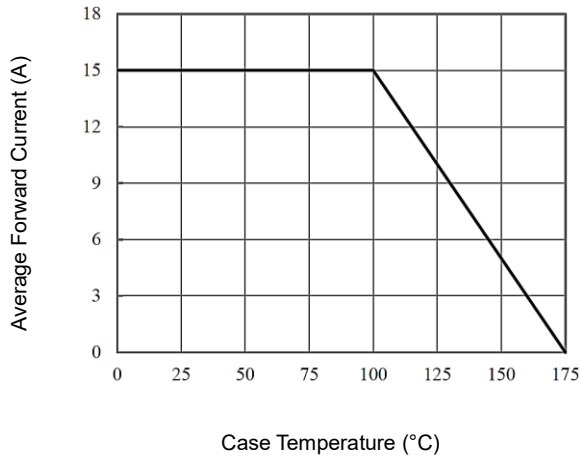
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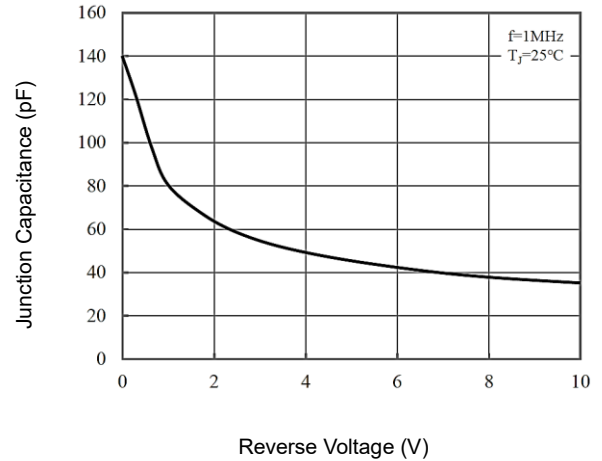
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## CHARACTERISTICS CURVES

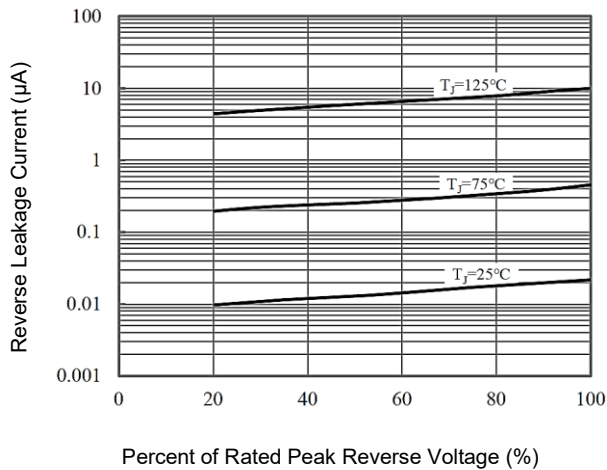
Forward Current Derating Curve



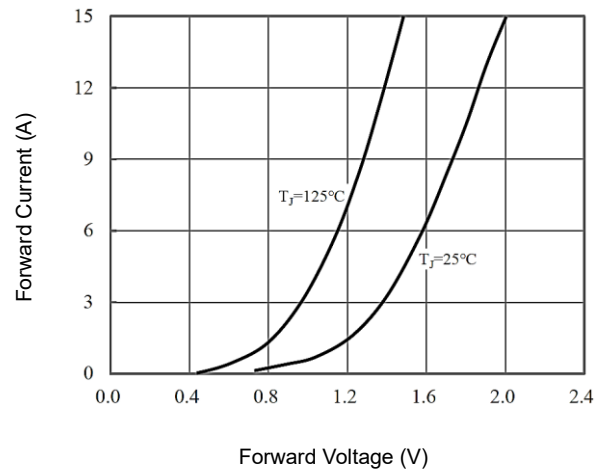
Typical Junction Capacitance



Typical Reverse Characteristics



Typical Forward Characteristics



## ORDERING INFORMATION

Part Number	Qty / tube	Qty / Inner Box	Qty / Outer Box
SFD1512AT2202	50pcs	1000pcs	5000pcs