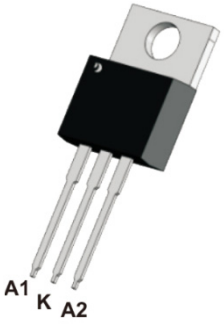
Prisemi®

PSBDTOxxV40/PSBDTOFxxV40 Series

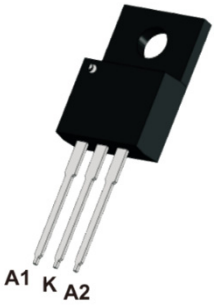
Schottky Barrier Rectifiers

Feature

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any



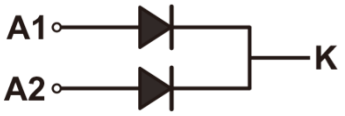
TO-220
PSBDTOxxV40



TO-220F
PSBDTOFxxV40

Mechanical Characteristics

- Case: TO-220
- Approx. Weight: 1.9g (0.067oz)
- Case: TO-220F
- Approx. Weight: 2.1g (0.07oz)
- Terminals: Lead solderable per MIL-STD-202, Method 208



Circuit Diagram

Maximum Ratings and Thermal Characteristics (T_A=25℃ unless otherwise noted)

Parameter	Symbol	PSBDTO 40V40 / PSBDTO F40V40	PSBDTO 45V40 / PSBDTO F45V40	PSBDTO 60V40 / PSBDTO F60V40	PSBDTO 100V40 / PSBDTO F100V40	PSBDTO 150V40 / PSBDTO F150V40	PSBDTO 200V40 / PSBDTO F200V40	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V_{RMS}	28	31.5	42	70	105	140	V
Maximum DC Blocking Voltage	V_{DC}	40	45	60	100	150	200	V
Maximum Average Forward Rectified Current per diode / per device	$I_{F(AV)}$	20 / 40						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	250						A
Maximum Forward Voltage at 20 A	V_F	0.75		0.80	0.88	0.92	0.95	V
Maximum DC Reverse Current at Rated DC Blocking Voltage T_a = 25 °C / T_a = 125 °C	I_R	0.1 / 20			0.05 / 20			mA
Typical Junction Capacitance Per Element[1)]	C_J	800		600				pF
Typical Thermal Resistance TO-220 / TO-220F	$R_{\theta JC}$	2.0 / 4.0						℃/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55~+150				-55~+175		℃

Notes:

1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

Typical Characteristics

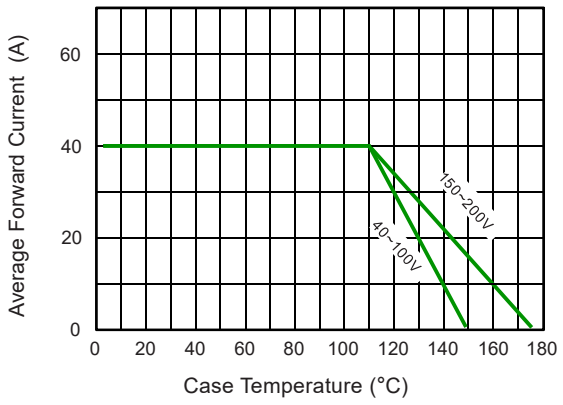


Fig.1 Typical Forward Current Derating Curve

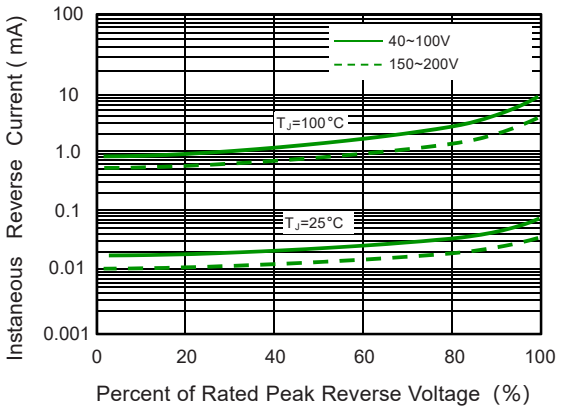


Fig.2 Typical Reverse Characteristics

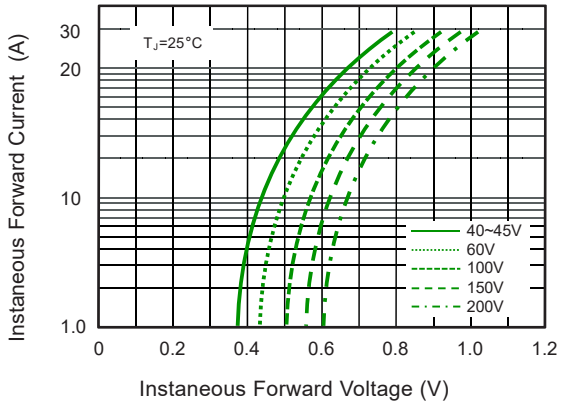


Fig.3 Typical Forward Characteristic(per leg)

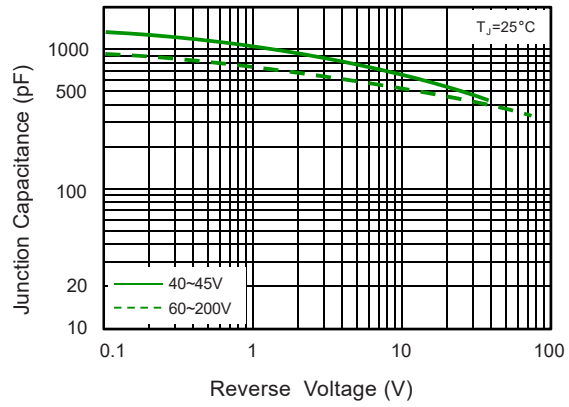


Fig.4 Typical Junction Capacitance

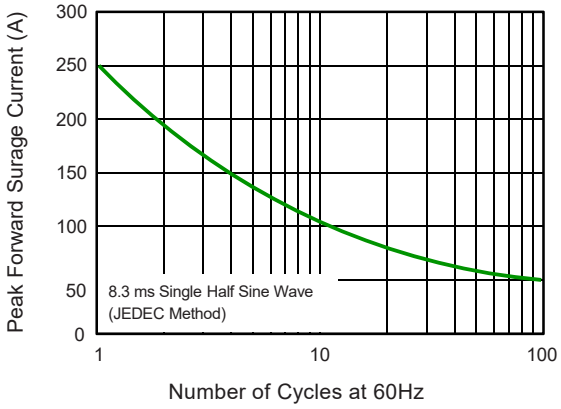


Fig.5 Maximum Non-Repetitive Peak Forward Surage Current

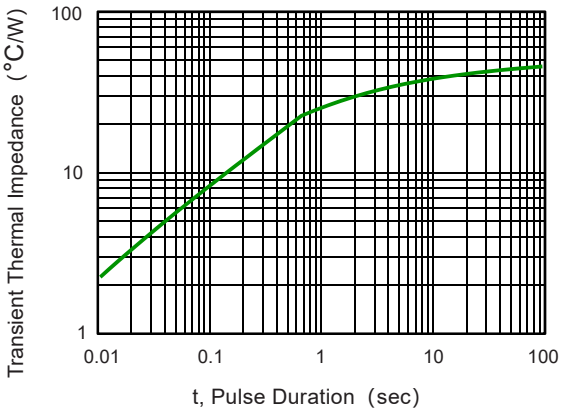
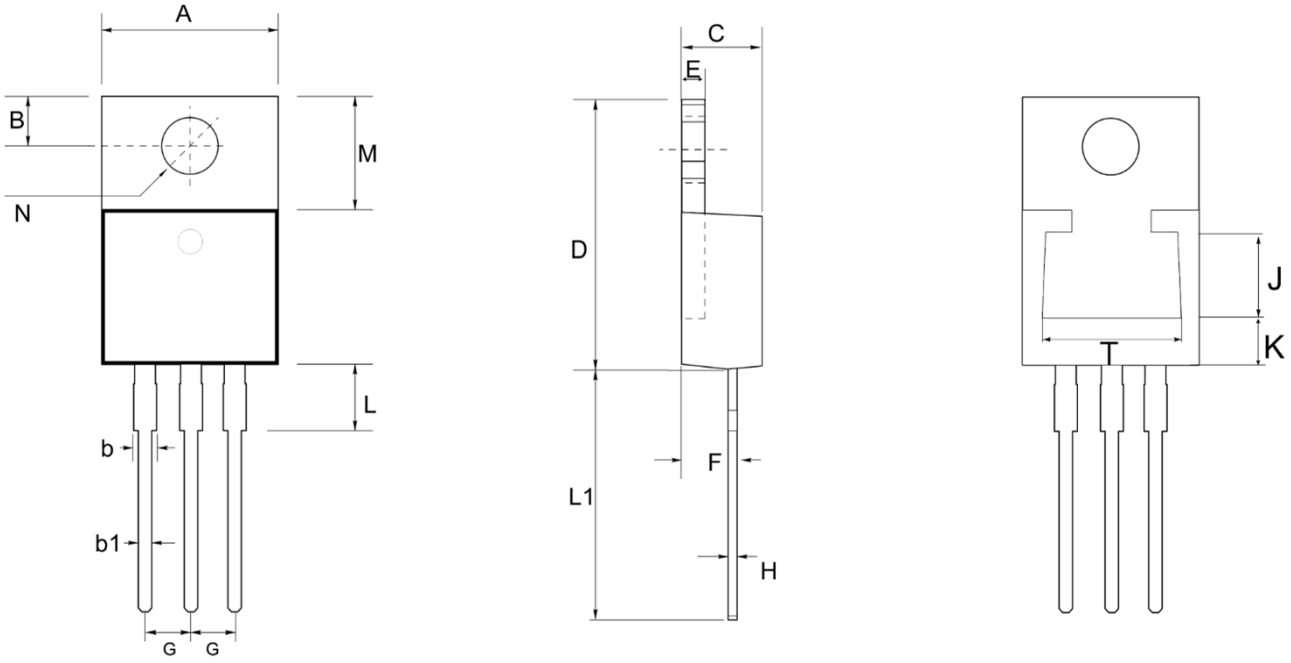


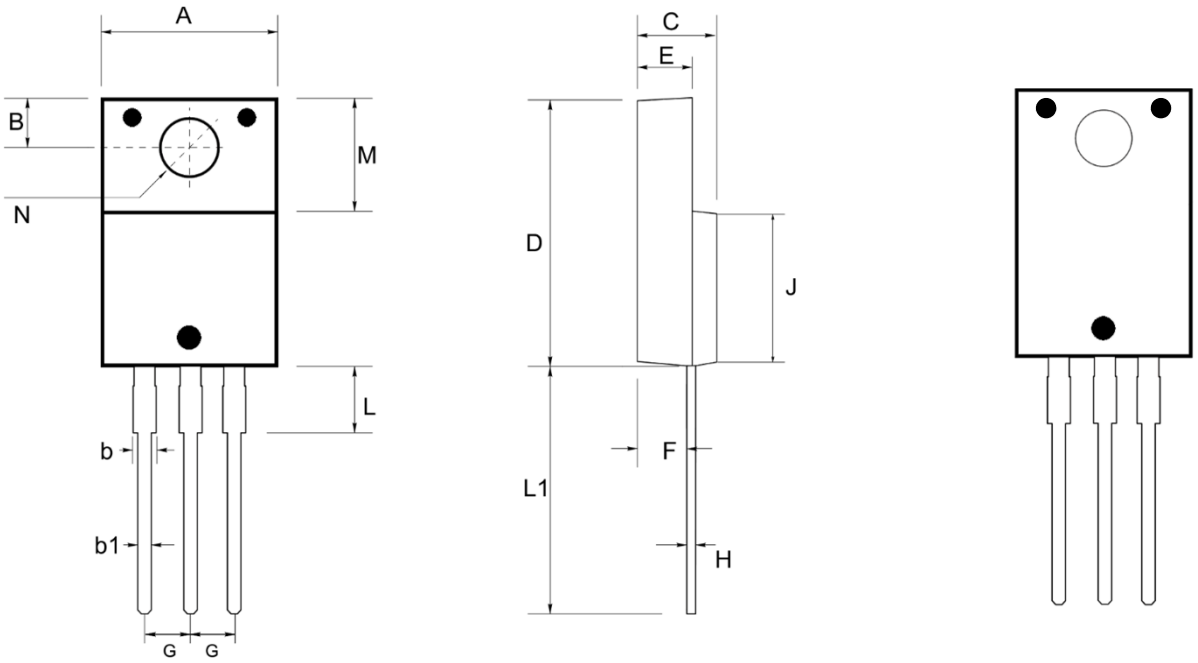
Fig.6- Typical Transient Thermal Impedance

Product dimension (TO-220)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	9.85	10.45	0.388	0.411
B	2.54	2.94	0.100	0.116
b	1.14	1.77	0.045	0.070
b1	0.62	0.94	0.024	0.037
C	4.42	4.76	0.174	0.187
D	14.60	16.00	0.575	0.630
E	1.14	1.40	0.045	0.055
F	2.20	2.80	0.087	0.110
G	2.54 Typ.		0.100 Typ.	
H	0.35	0.64	0.014	0.025
L	2.80	4.20	0.110	0.165
L1	13.08	14.79	0.515	0.582
M	6.60 Typ.		0.260 Typ.	
N	3.80 Typ.		0.150 Typ.	
J	4.65 Ref.		0.183 Ref.	
T	7.70 Ref.		0.303 Ref.	
K	3.22 Ref.		0.127 Ref.	

Product dimension (TO-220F)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	9.85	10.50	0.388	0.413
B	2.54	2.85	0.100	0.112
b	1.10	1.40	0.043	0.055
b1	0.50	0.80	0.020	0.031
C	4.40	4.70	0.173	0.185
D	14.70	16.00	0.579	0.630
E	2.50	2.90	0.098	0.114
F	2.50	2.80	0.098	0.110
G	2.54 Typ.		0.100 Typ.	
H	0.41	0.70	0.016	0.028
L	2.30	2.90	0.091	0.114
L1	13.00	14.30	0.512	0.563
M	6.30	7.00	0.248	0.276
N	3.40 Typ.		0.134 Typ.	

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