



the following features are made possible in a single device:

Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	5	A
V_{RRM}	40	V
$V_F@5A, T_j=125^\circ C$	0.36	V, typ
T_j (operating/storage)	-55 to 150	$^\circ C$

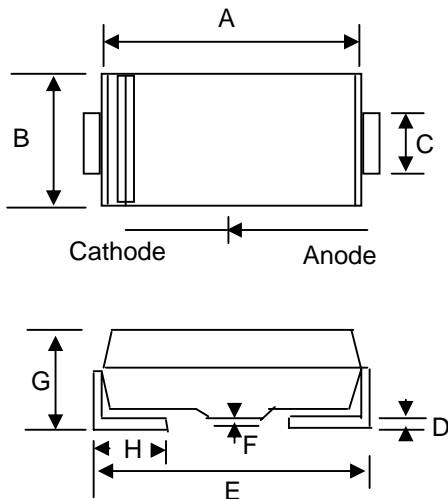
Device optimized for ultra-low forward voltage drop to maximize efficiency in Power Supply applications

ELECTRICAL:

- * Ultra Low Forward Voltage Drop
- * Reliable High Temperature Operation
- * Softest, fast switching capability
- * 150 $^\circ C$ Operating Junction Temperature
- * Lead Free Finish, RoHS Compliant

MECHANICAL:

- * Molded Plastic Low profile SMB / SMC
- * Device Weight : 0.093 grams - SMB
0.210 grams - SMC



DIM.	SMB		DIM.	SMC	
	Min	Max		Min	Max
A	4.06	4.57	A	6.60	7.11
B	3.30	3.94	B	5.59	6.22
C	1.96	2.21	C	2.92	3.18
D	0.15	0.31	D	0.15	0.31
E	5.21	5.59	E	7.75	8.13
F	0.05	0.20	F	0.10	0.20
G	2.01	2.62	G	2.06	2.62
H	0.76	1.52	H	0.76	1.52
unit : mm			unit : mm		



Maximum Ratings and Electrical Characteristics

(at 25°C unless otherwise specified)

PARAMETER	SYMBOL			UNITS
DC Blocking Voltage	V_{RM}			Volts
Working Peak Reverse Voltage	V_{RWM}	40		
Peak Repetitive Reverse Voltage	V_{RRM}			
Average Rectified Forward Current (Rated V_R -20Khz Square Wave) - 50% duty cycle	I_O	5		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	120		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	1		Amps
Instantaneous Forward Voltage (per leg) $I_F = 5A; T_J = 25^\circ C$ $I_F = 5A; T_J = 125^\circ C$	V_F^*	Typ 0.40 0.36	Max 0.47 0.40	Volts
Instantaneous Reverse Current at Rated V_{RM} $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R	Typ 80 13	Max 500 100	uA mA
Maximum Rate of Voltage Change (at Rated V_R)	dv/dt	10,000		V/uS
Maximum Thermal Resistance JT junction to terminal RthJT SMB SMC	$R\theta_{JT}$	15 10		°C/W
Operating Junction Temperature	T_J	-55 to +150		°C
Storage Junction Temperature	T_{STG}	-55 to +150		°C

NOTE: Dice are available for customer applications.

* Pulse width < 300 uS, Duty cycle < 2%

* Conduction Loss (Pcond) = $V_{to} \times I_{F(av)} + r_d \times I_{F(RMS)}^2 = 0.301 \times I_{F(av)} + 0.0186 \times I_{F(RMS)}^2$

$I_{F(av)}$: average forward current in the diode

$I_{F(RMS)}$: RMS forward current in the diode.



P5L40B
P5L40C

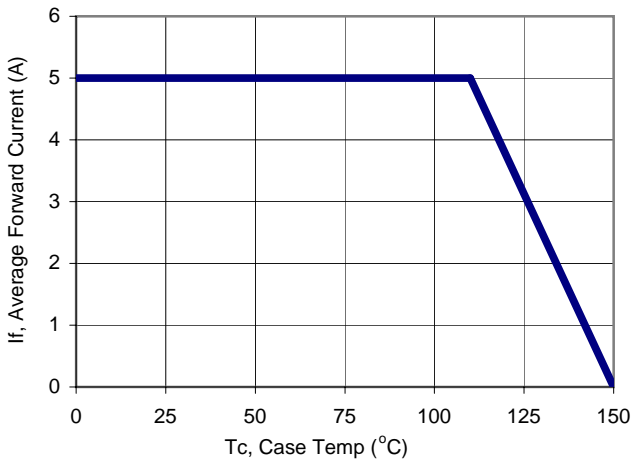


Figure 1: Current Derating, Case

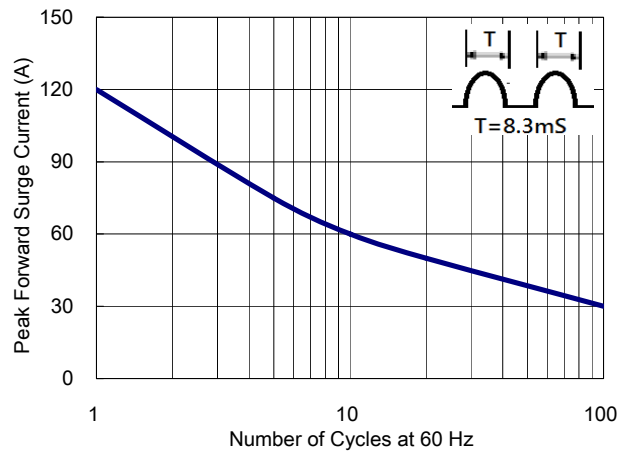


Figure 2: Maximum Repetitive Surge Current

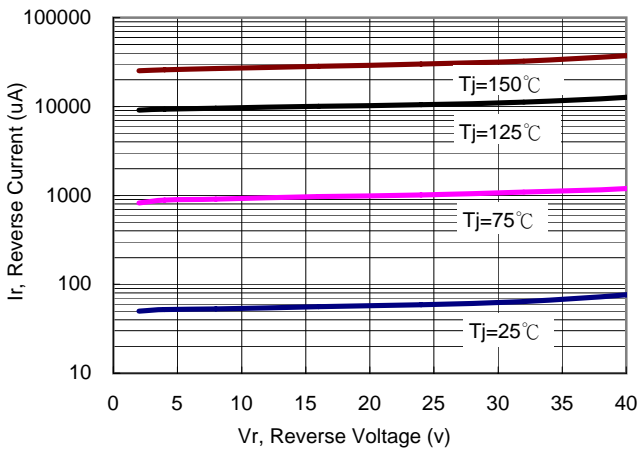


Figure 3: Typical Reverse Current

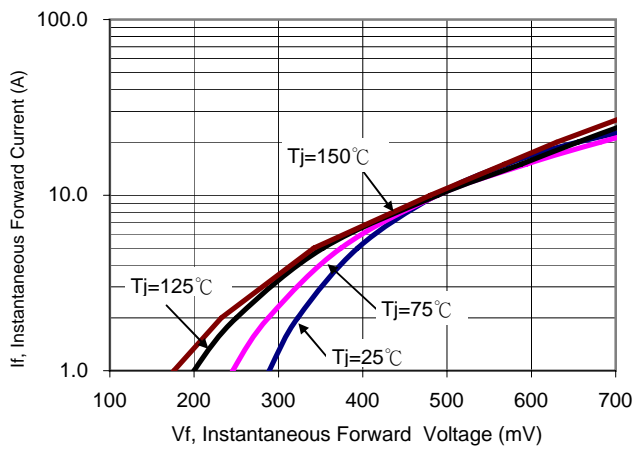


Figure 4: Typical Forward Voltage

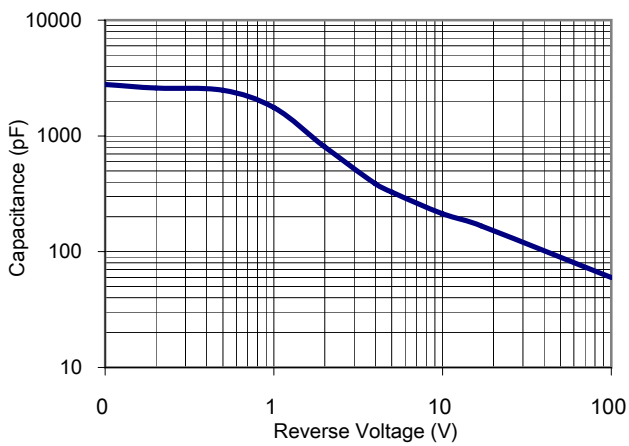


Figure 5: Typical Junction Capacitance

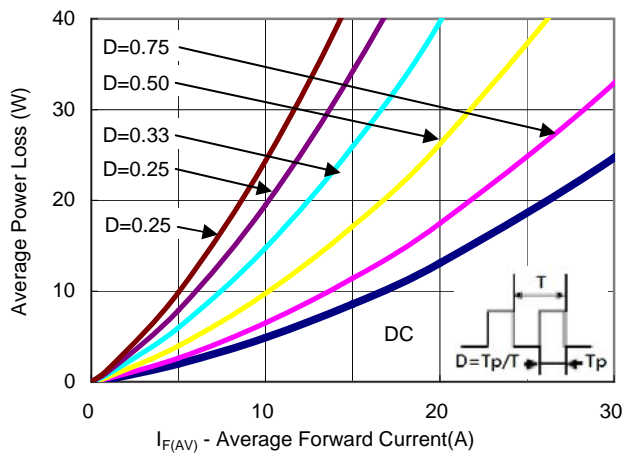


Figure 6: Forward Power Loss characteristics



P5L40B

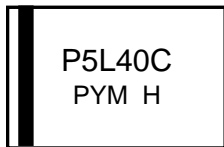
P5L40C

Ordering information

Part Number	Case	Packaging
P5L40B	SMB	3000 pieces / 13" Reel
P5L40BH	SMB	3000 pieces / 13" Reel
P5L40C	SMC	3000 pieces / 13" Reel
P5L40CH	SMC	3000 pieces / 13" Reel

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Marking information



P5L40C = Product Type Marking Code

PYM = Date Code

Y = Year code

M = Month code

H = Halogen Free (N/A = common molding compound)

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