MAXIMUM RATINGS (Per Leg)

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V_{RRM} V_{RWM} V_R	45	V
Average Rectified Forward Current (Rated V_R, T_C = 164°C) Total Device	$I_{F(AV)}$	15 30	A
Peak Repetitive Forward Current (Rated V_R, Square Wave, 20 kHz, T_C = 160°C)	I_{FRM}	30	A
Non−Repetitive Peak Surge Current (Surge Applied at Rated Load Conditions Halfwave, Single Phase, 60 Hz)	I_{FSM}	150	A
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I_{RRM}	1.0	A
Storage Temperature Range	T_{stg}	−65 to +175	°C
Operating Junction Temperature (Note 1)	T_J	−65 to +175	°C
Voltage Rate of Change (Rated V_R)	dv/dt	10,000	V/μs

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

1. The heat generated must be less than the thermal conductivity from Junction−to−Ambient: $dP_D/dT_J < 1/R_{\theta JA}$.

THERMAL CHARACTERISTICS (Per Leg)

Characteristic	Symbol	Value	Unit
Thermal Resistance,− Junction−to−Case − Junction−to−Ambient (Note 2)	$R_{\theta JC}$ $R_{\theta JA}$	1.5 50	°C/W

2. When mounted using minimum recommended pad size on FR−4 board.

ELECTRICAL CHARACTERISTICS (Per Diode)

Symbol	Characteristic	Condition	Min	Typ	Max	Unit
V_F	Instantaneous Forward Voltage (Note 3)	I_F = 15 Amp, T_J = 25°C I_F = 15 Amp, T_J = 125°C I_F = 30 Amp, T_J = 25°C I_F = 30 Amp, T_J = 125°C	− − − −	− 0.50 − 0.65	0.62 0.57 0.82 0.72	V
I_R	Instantaneous Reverse Current (Note 3)	V_R = 45 Volts, T_J = 25°C V_R = 45 Volts, T_J = 125°C	− −	− 9.0	0.2 25	mA

3. Pulse Test: Pulse Width = 300 μs, Duty Cycle ≤ 2.0%.

ORDERING INFORMATION

Device	Package	Shipping†
MBRB2545CT	D^2PAK	50 Units / Rail
MBRB2545CTG	D^2PAK (Pb−Free)	50 Units / Rail
MBRB2545CTT4	D^2PAK	800 Units / Tape & Reel
MBRB2545CTT4G	D^2PAK (Pb−Free)	800 Units / Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

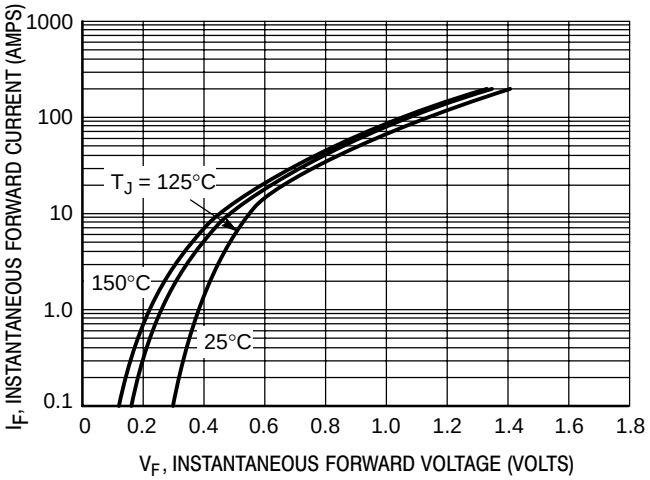


Figure 1. Typical Forward Voltage, Per Leg

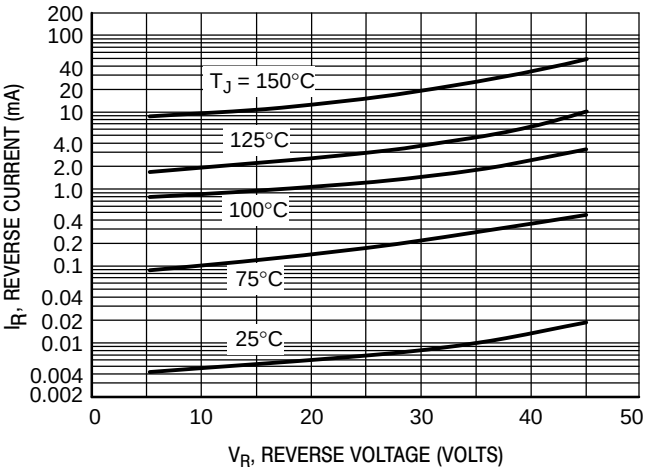


Figure 2. Typical Reverse Current, Per Leg

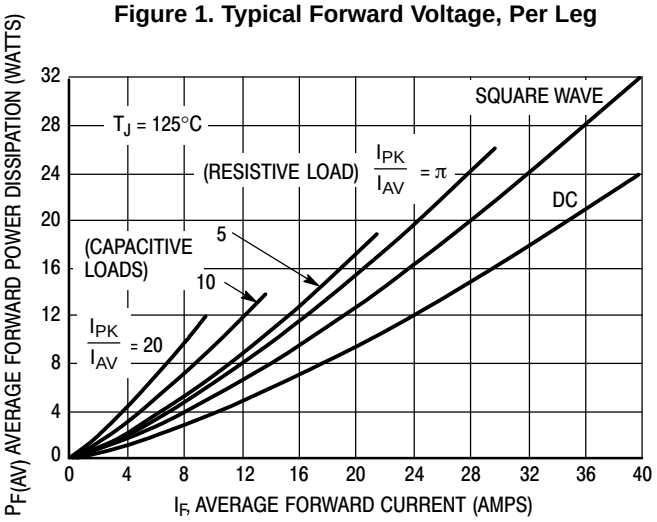


Figure 3. Typical Forward Power Dissipation

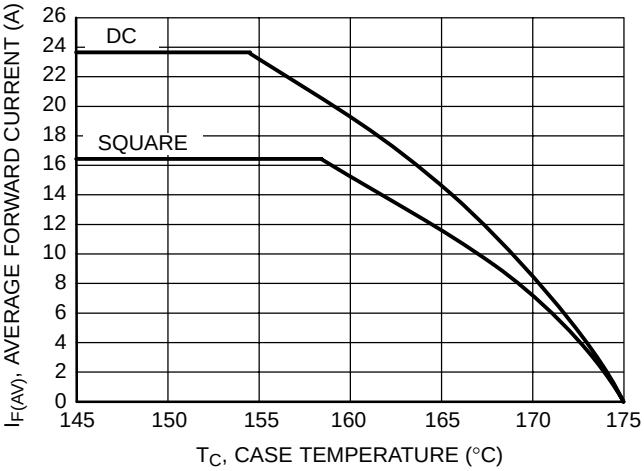
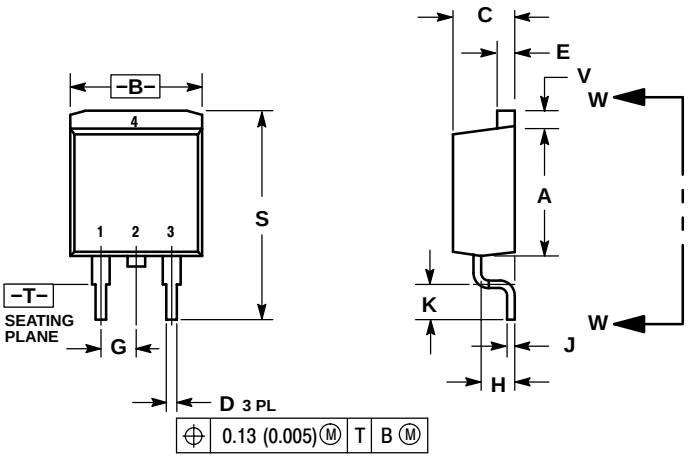


Figure 4. Current Derating, Case per Leg

PACKAGE DIMENSIONS

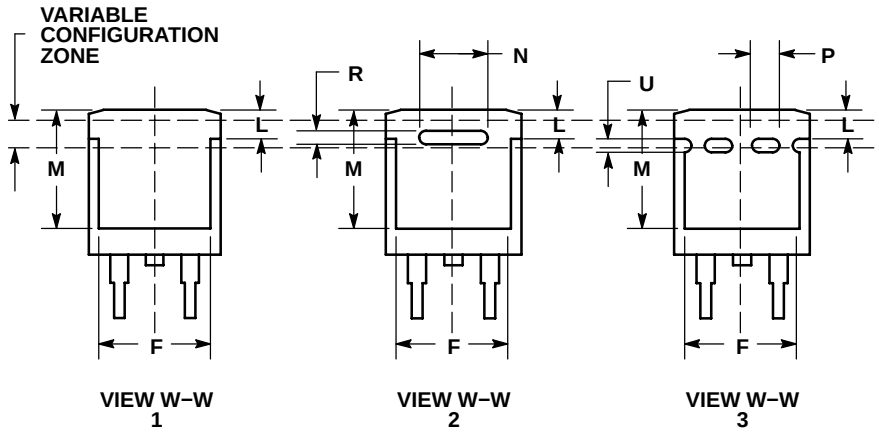
D²PAK 3
CASE 418B−04
ISSUE J



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 418B−01 THRU 418B−03 OBSOLETE, NEW STANDARD 418B−04.

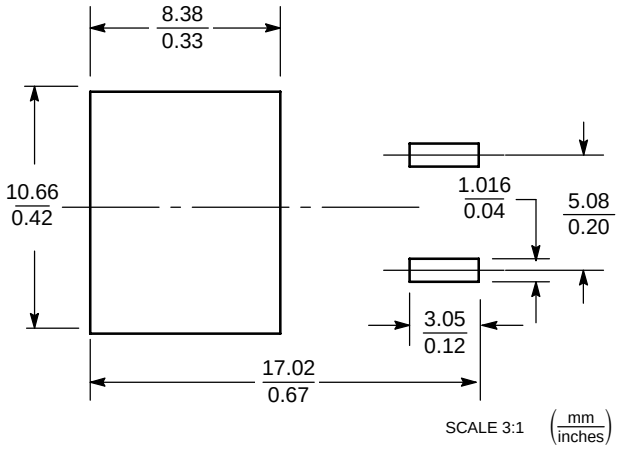
	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
F	0.310	0.350	7.87	8.89
G	0.100 BSC		2.54 BSC	
H	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.090	0.110	2.29	2.79
L	0.052	0.072	1.32	1.83
M	0.280	0.320	7.11	8.13
N	0.197 REF		5.00 REF	
P	0.079 REF		2.00 REF	
R	0.039 REF		0.99 REF	
S	0.575	0.625	14.60	15.88
V	0.045	0.055	1.14	1.40

STYLE 3:
PIN 1. ANODE
2. CATHODE
3. ANODE
4. CATHODE



VIEW W−W 1 | VIEW W−W 2 | VIEW W−W 3

SOLDERING FOOTPRINT*



*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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PUBLICATION ORDERING INFORMATION

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