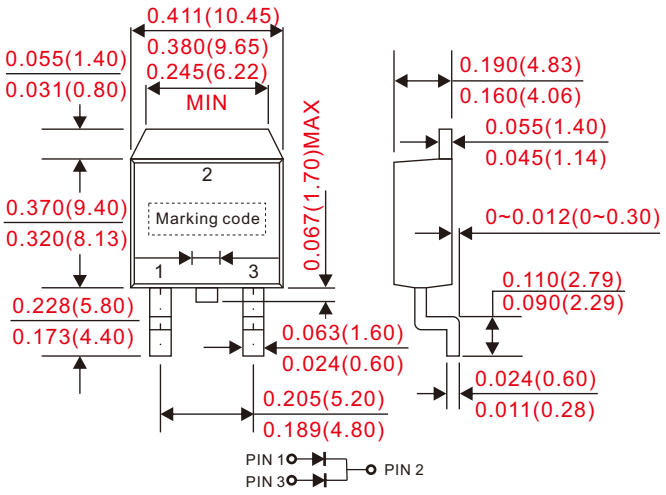
## ■ Features

- Low forward voltage drop.
- Excellent high temperature stability.
- Fast switching capability.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

## ■ Outline

$D^2PAK$(TO-263)




## ■ Mechanical data

- Epoxy : UL94-V0 rated flame retardant.
- Case : Molded plastic, TO-263/$D^2PAK$
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026.
- Polarity: Indicated by cathode band.
- Mounting Position : Any.
- Weight : Approximated 1.70 gram.

## ■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Parameter | Conditions | Symbol | CB40S100CT | UNIT |
|---|---|---|---|---|
| Marking code | | | CB40S100CT | |
| Peak repetitive reverse voltage<br>Working peak reverse voltage<br>DC blocking voltage | | $V_{RRM}$<br>$V_{RWM}$<br>$V_{RM}$ | 100 | V |
| Forward rectified current (total device) | | $I_O$ | 40 | A |
| Forward surge current (per diode) | 8.3ms single half sine-wave superimposed on rate load (JEDEC method) | $I_{FSM}$ | 300 | A |
| Peak repetitive reverse surge current (per diode) | 2us - 1kHz | $I_{RRM}$ | 1 | A |
| Thermal resistance(1) (per diode) | Junction to case | $R_{\theta JC}$ | 2 | °C/W |
| Operating and Storage temperature | | $T_J$, $T_{STG}$ | -40 ~ +150 | °C |

| Parameter | Conditions | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|---|
| Forward voltage drop (per diode) | $I_F$ = 20A, $T_J$ = 25°C | $V_F$ | | | 730 | mV |
| | $I_F$ = 20A, $T_J$ = 125°C | | | | 670 | |
| Reverse current (per diode) | $V_R$ = $V_{RRM}$ $T_J$ = 25°C | $I_R$ | | | 0.5 | mA |
| | $V_R$ = $V_{RRM}$ $T_J$ = 125°C | | | | 45 | |

Note : 1.Thermal resistance from junction to case per leg, with heatsink size(1.35" x 0.95" x 0.18") Al-plate.



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■ Rating and characteristic curves

Fig.1 - Forward Current Derating Curve

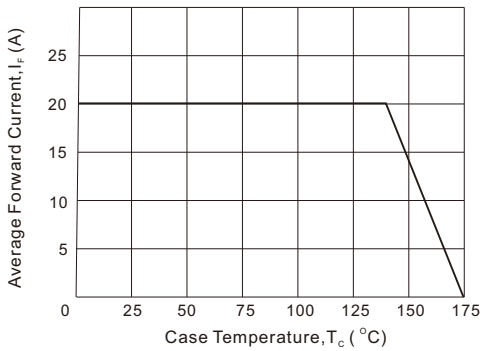



Fig. 2 - Instantaneous Forward Characteristics (per diode)

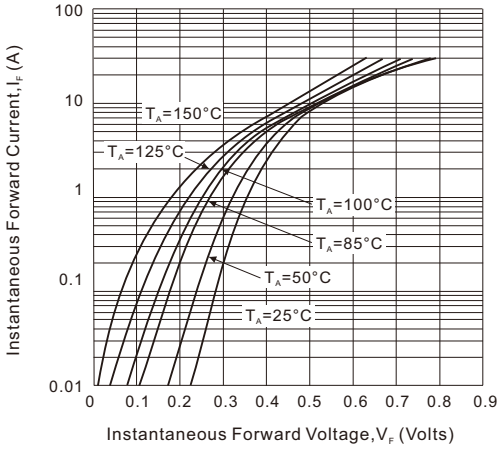
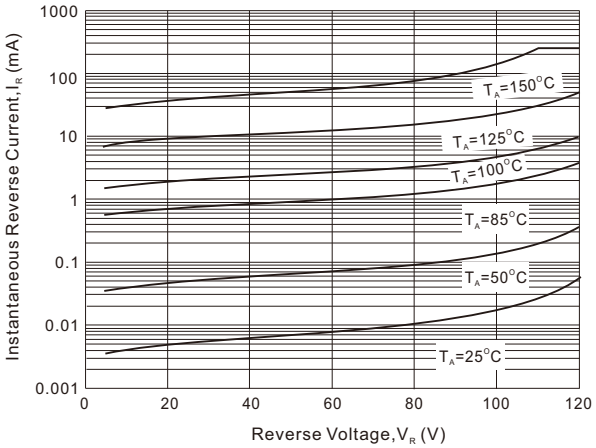



Fig. 3 - Reverse Characteristics (per diode)



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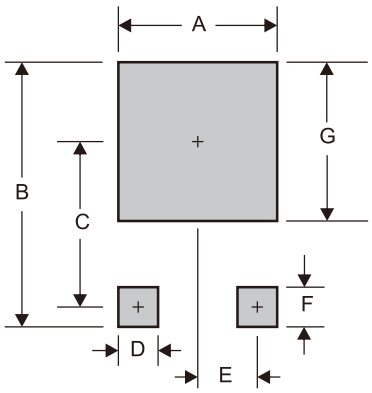
■ $D^2PAK$(TO-263) foot print




| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| 0.425 (10.80) | 0.665 (16.90) | 0.374 (9.50) | 0.071 (1.80) | 0.098 (2.50) | 0.138 (3.50) | 0.449 (11.40) |

Dimensions in inches and (millimeters)

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