

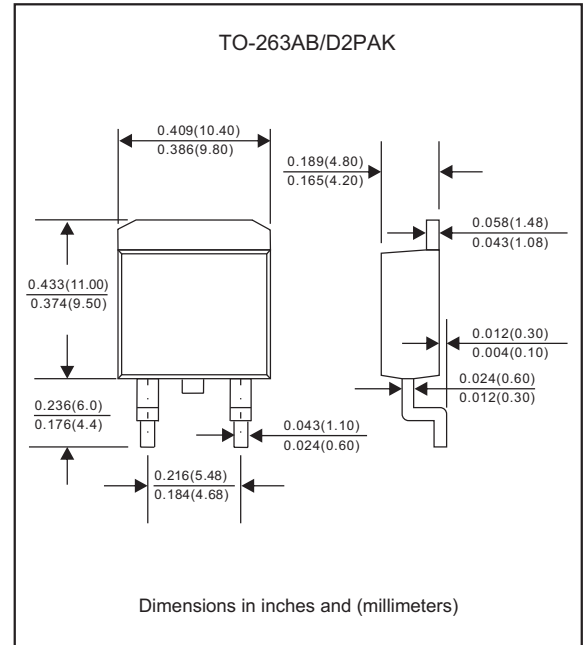
Features

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical Data

- Epoxy:UL94-V0 rated flame retardant
- Case: TO-263AB/D2PAK
- Terminals: Lead solderable per MIL-STD-202, Method 208
- Mounting position: any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current		I_O			30.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			200	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R			0.05	mA
	$V_R = V_{RRM} T_J = 125^\circ\text{C}$				20	
Junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		400		pF
Thermal resistance (1)	Junction to Ambient	$R_{\theta JA}$		45		$^\circ\text{C/W}$
Storage temperature		T_{STG}	-55		+175	$^\circ\text{C}$

NOTE : (1) P.C.B. mounted with 10cm*10cm*1mm copper pad areas.

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
MBR30200SCG-Q1	200	140	200	0.95	-55 to +175

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
IF = 15.0A, 25 $^\circ\text{C}$

Rating and characteristic curves

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

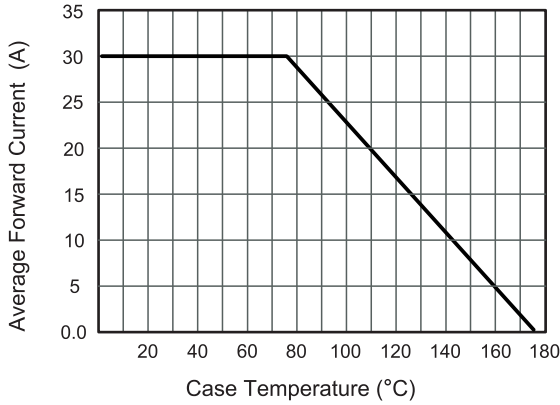


Fig.2 Typical Reverse Characteristics

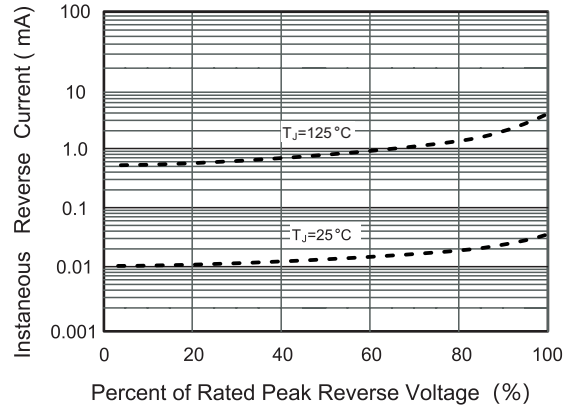


Fig.3 Typical Forward Characteristic(per leg)

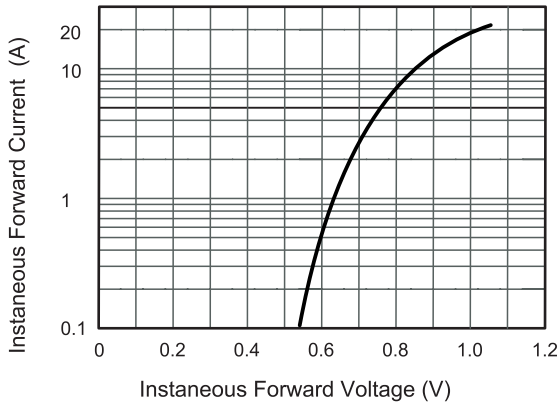


Fig.4 Typical Junction Capacitance

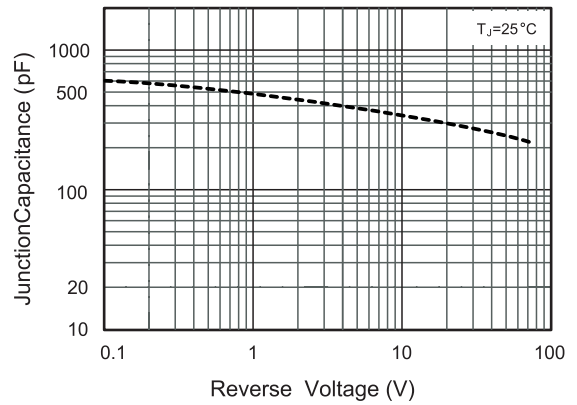


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

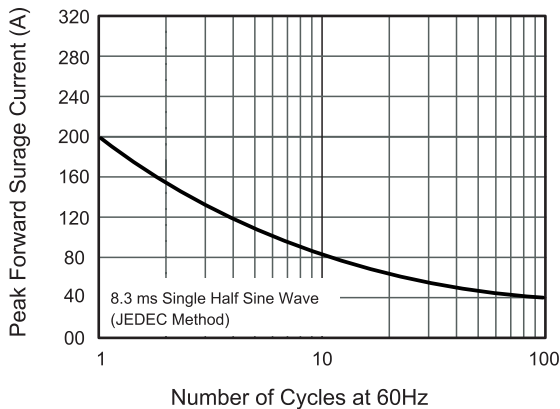
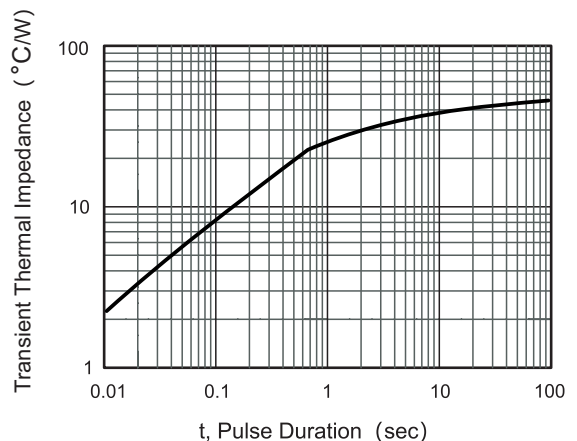
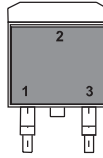
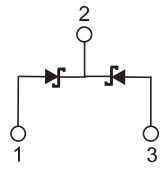


Fig.6- Typical Transient Thermal Impedance



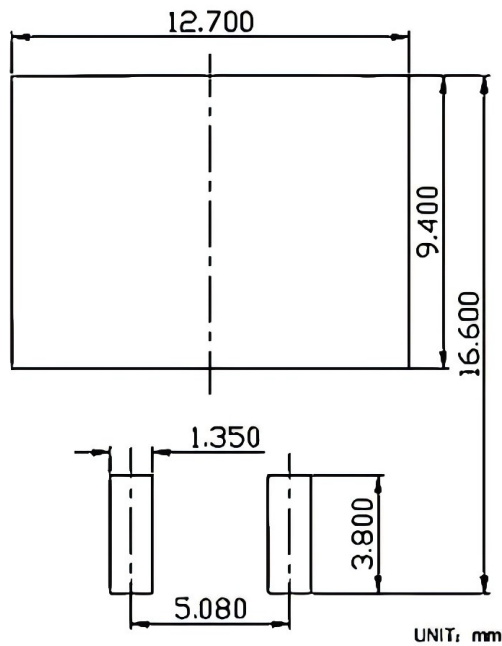
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2 cathode Pin3 anode		

Marking

Type number	Marking code
MBR30200SCG-Q1	MBR30200SCG

Suggested solder pad layout



SUGGESTED SOLDER PAD LAYOUT