

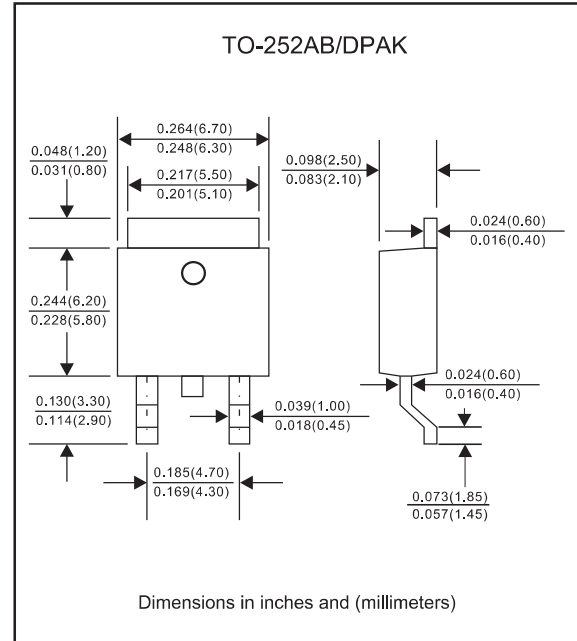
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free
- Suffix "-Q1" for AEC-Q101

Mechanical data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-252AB/DPAK
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- 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	See Fig.1	I_o			10.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			100	A
Reverse current	$V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$	I_R			0.05	mA
	$V_R = V_{RRM}$ $T_J = 125^\circ\text{C}$				10	
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_j		380		pF
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	V_F^{*5} (V)	Operating temperature T_J , ($^\circ\text{C}$)
MBR1040CD-Q1	40	28	40	0.70	0.84	-55 to +150
MBR1045CD-Q1	45	31.5	45			
MBR1050CD-Q1	50	35	50			
MBR1060CD-Q1	60	42	60			
MBR1080CD-Q1	80	56	80			
MBR10100CD-Q1	100	70	100	0.85	0.95	-55 to +175
MBR10150CD-Q1	150	105	150			
MBR10200CD-Q1	200	140	200			

*1 Repetitive peak reverse voltage

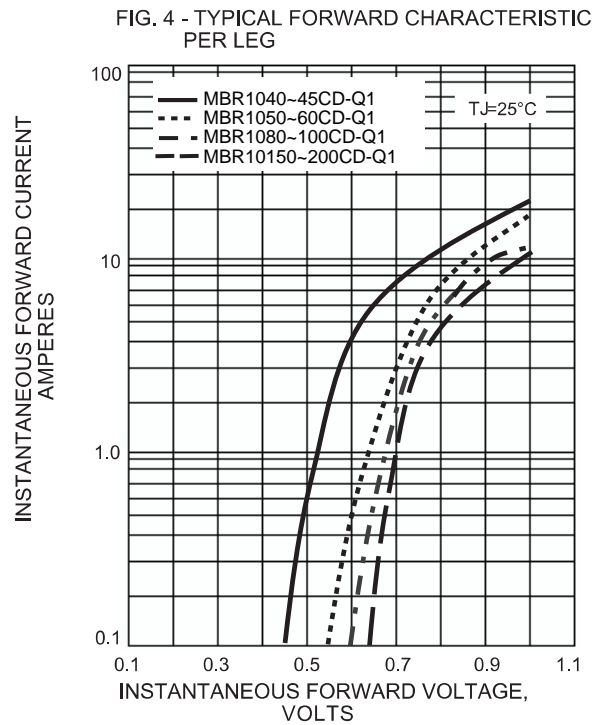
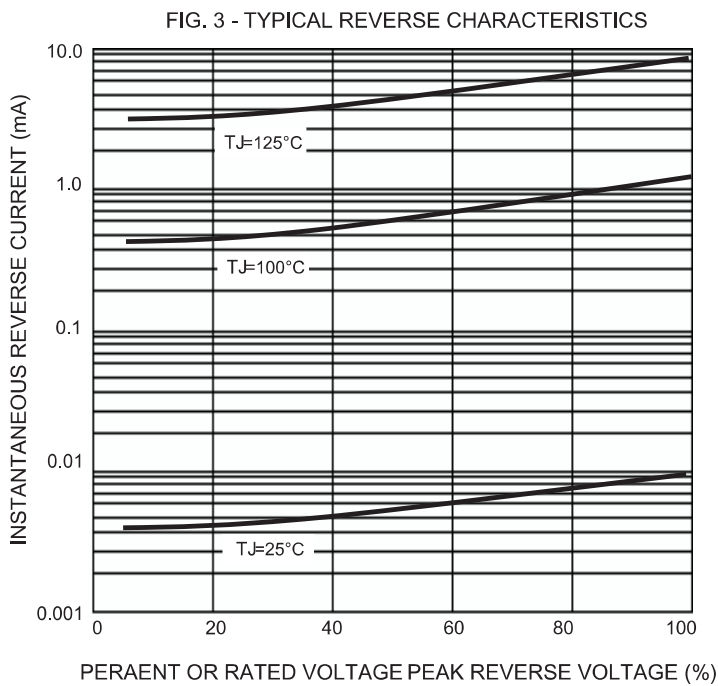
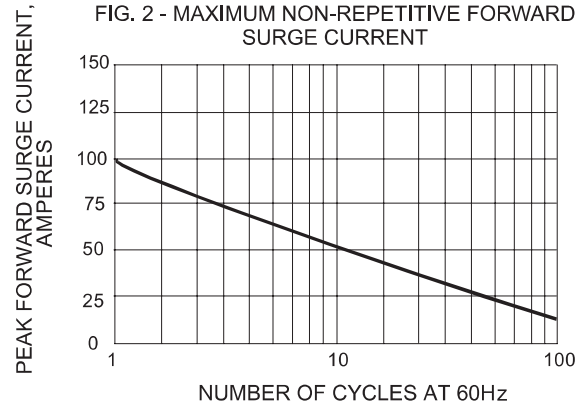
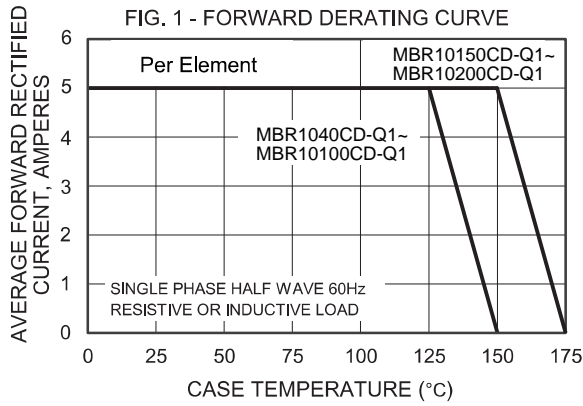
*2 RMS voltage

*3 Continuous reverse voltage

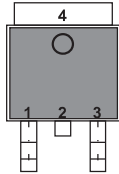
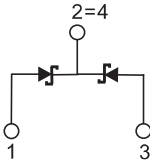
*4 Maximum forward voltage
IF = 5.0A, 25 $^\circ\text{C}$

*5 Maximum of forward voltage
IF=10.0A, 25 $^\circ\text{C}$

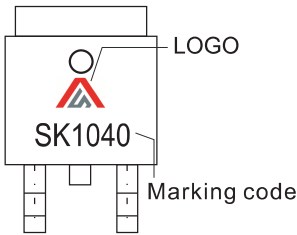
Rating and characteristic curves



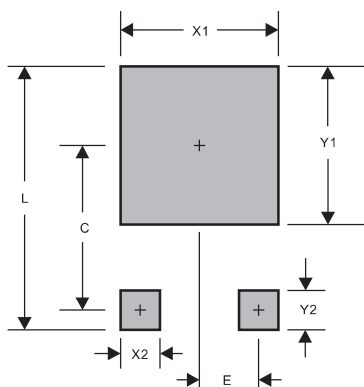
Pinning information

Pin	Simplified outline	Symbol
Pin1 anode Pin2=4 cathode Pin3 anode		

Marking

Type number	Marking code	Example
MBR1040CD-Q1	SK1040	
MBR1045CD-Q1	SK1045	
MBR1050CD-Q1	SK1050	
MBR1060CD-Q1	SK1060	
MBR1080CD-Q1	SK1080	
MBR10100CD-Q1	SK10100	
MBR10150CD-Q1	SK10150	
MBR10200CD-Q1	SK10200	

Suggested solder pad layout



PACKAGE	DPAK
C	0.272(6.90)
E	0.091(2.30)
L	0.457(11.60)
X1	0.276(7.00)
X2	0.059(1.50)
Y1	0.276(7.00)
Y2	0.098(2.50)

Dimensions in inches and (millimeters)