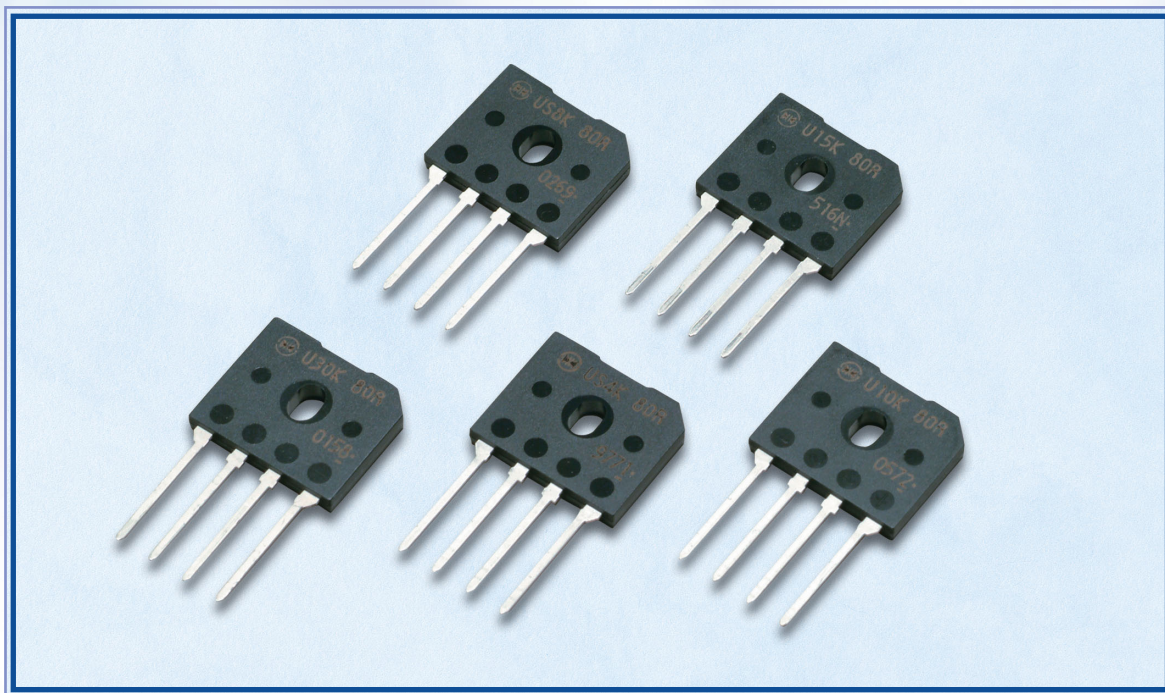


SILICON BRIDGE DIODES

USKB SERIES

UL File No. E142422



Summary

Bridge diodes are being required to take up less space accompanying the reduced size of electronic equipment. In order to respond to these needs, Shindengen has developed a new package in offering a complete lineup of bridge diodes that can be used in a wide range of power supply environments.

Features

- Rectified forward current : 4A (US4KB80R) , 6A (US6KB80R) , 8A (US8KB80R) ,
(with heat sink) 10A (US10KB80R) , 15A (US15KB80R) , 30A (US30KB80R)
- Large current capacity of 30A with compact package
- High I_{FSM} and High Voltage
- UL approved Bridge Rectifier Diodes, registered in file number E142422
- High-density mounting for improved space efficiency through the use of SIP (Single In-Line Package)

Application

TV, Monitor, Switching power supply, PC, Audio, Printer

**SHINDENGEN**

RATINGS

● Absolute Maximum Ratings (Tc=25°C/Unless otherwise specified)

Item	Symbol	Conditions		US4KB80R	US6KB80R	US8KB80R	Unit
Storage Temperature	Tstg			-55~150			℃
Operation Junction Temperature	Tj			150			℃
Maximun Reverse Voltage	V _{RM}			800			V
Average Rectified Forward Current	Io	60Hz sine wave, Resistance load	With heatsink	4 (Tc=125℃)	6 (Tc=116℃)	8 (Tc=108℃)	A
			Without heatsink	2.1 (Ta=30℃)	2.1 (Ta=30℃)	2.2 (Ta=26℃)	
Peak Surge Forward Current	I _{FSM}	60Hz sine wave, Non-repetitive 1cycle peak value, Tj=25℃		150	175	200	A
	I _{FSM} ¹	Non-repetitive, Tj=25℃		245 (tp=3ms)	470 (tp=1ms)	575 (tp=1ms)	
Current Squared Time	I _t ²	Tj=25℃, Per diode		93 (3ms≤t<8.3ms)	112 (1ms≤t<8.3ms)	166 (1ms≤t<8.3ms)	A ² s
Dielectric Strength	Vdis	Terminals to cace, AC 1 minute		2.0			kV
Mounting Torque	TOR	(Recommended torque:0.5N·m)		0.8			N·m

● Electrical Characteristics (Tc=25°C/Unless otherwise specified)

Forward Voltage	V _F	Pulse measurement, Per diode	MAX. 1.00 (I _F =2A)	MAX. 1.00 (I _F =3A)	MAX. 1.00 (I _F =4A)	V
Reverse Current	I _R	V _R =800V, Pulse measurement, Per diode	MAX. 10			μA
Thermal Resistance	θ _{JC}	Junction to case, With heatsink	MAX. 3.5	MAX. 3.0	MAX. 2.8	°C/W
	θ _{JL}	Junction to lead, Without heatsink	MAX. 5			
	θ _{JA}	Junction to ambient, Without heatsink	MAX. 35			
Type No.			US4K80R	US6K80R	US8K80R	

● Absolute Maximum Ratings (Tc=25°C/Unless otherwise specified)

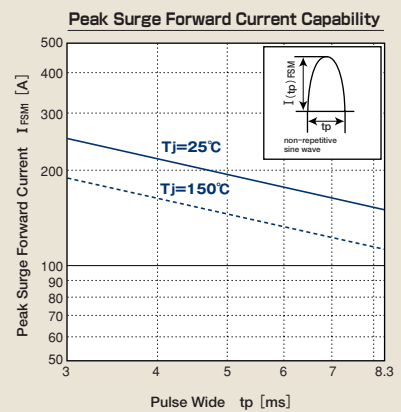
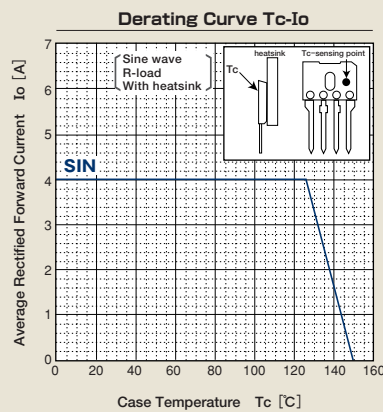
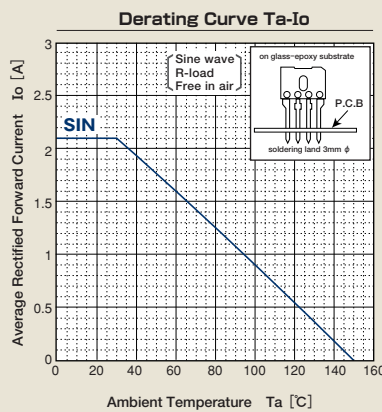
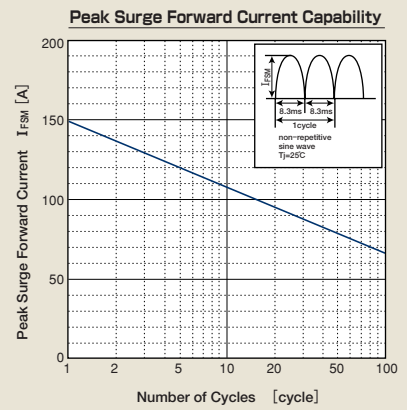
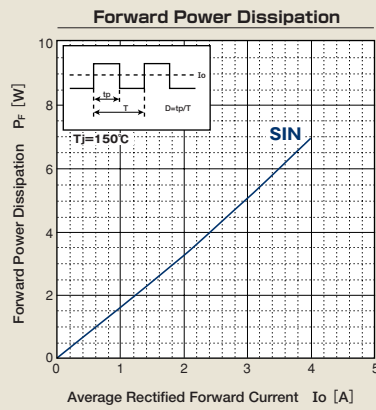
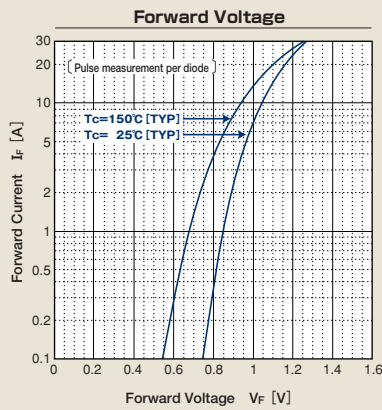
Item	Symbol	Conditions		US10KB80R	US15KB80R	US30KB80R	Unit
Storage Temperature	Tstg			-55~150			℃
Operation Junction Temperature	Tj			150			℃
Maximun Reverse Voltage	V _{RM}			800			V
Average Rectified Forward Current	Io	60Hz sine wave, Resistance load	With heatsink	10 (Tc=100℃)	15 (Tc=101℃)	30 (Tc=97℃)	A
			Without heatsink	2 (Ta=28℃)	2 (Ta=30℃)	2.1 (Ta=27℃)	
Peak Surge Forward Current	I _{FSM}	60Hz sine wave, Non-repetitive 1cycle peak value, Tj=25℃		150	200	350	A
	I _{FSM} ¹	Non-repetitive, Tj=25℃		245 (tp=3ms)	330 (tp=3ms)	1000 (tp=1ms)	
Current Squared Time	I _t ²	Tj=25℃, Per diode		93 (3ms≤t<8.3ms)	166 (3ms≤t<8.3ms)	510 (1ms≤t<8.3ms)	A ² s
Dielectric Strength	Vdis	Terminals to cace, AC 1 minute		2.0			kV
Mounting Torque	TOR	(Recommended torque:0.5N·m)		0.8			N·m

●Electrical Characteristics (Tc=25°C/Unless otherwise specified)

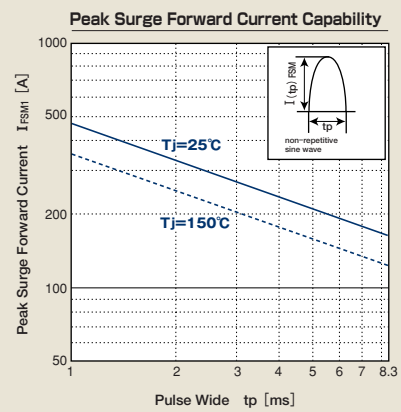
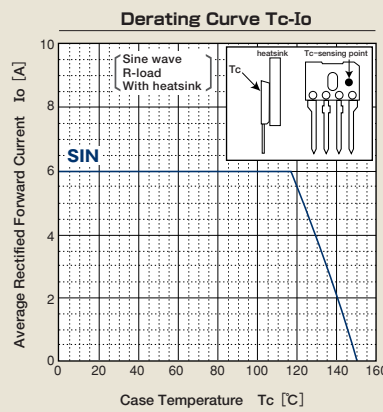
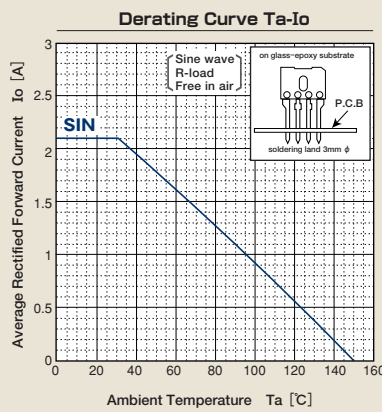
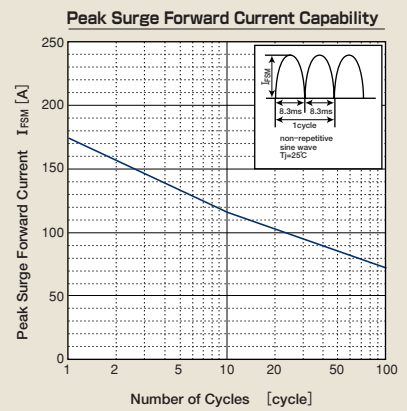
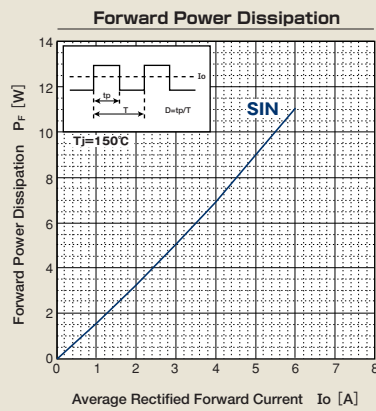
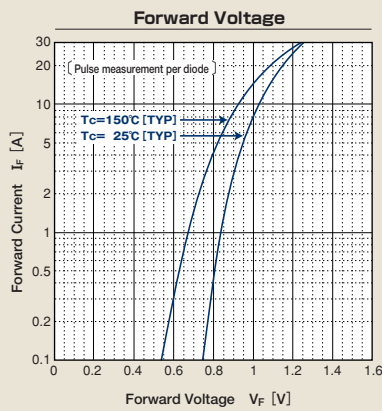
Forward Voltage	V _F	Pulse measurement, Per diode	MAX. 1.10 (I _F =5A)	MAX. 1.10 (I _F =7.5A)	MAX. 1.10 (I _F =15A)	V
Reverse Current	I _R	V _R =800V, Pulse measurement, Per diode	MAX. 10			μA
Thermal Resistance	θ _{jc}	Junction to case, With heatsink	MAX. 2.5	MAX. 1.5	MAX. 0.8	°C/W
	θ _{jl}	Junction to lead, Without heatsink	MAX. 5			
	θ _{ja}	Junction to ambient, Without heatsink	MAX. 35			
Type No.			U10K80R	U15K80R	U30K80R	

CHARACTERISTIC DIAGRAMS

US4KB80R

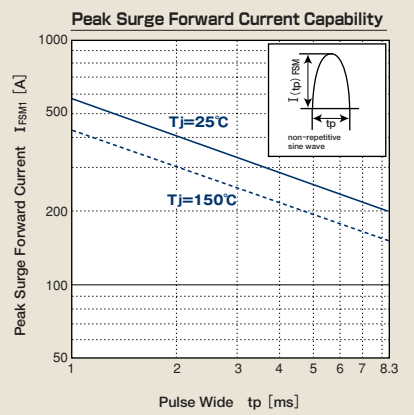
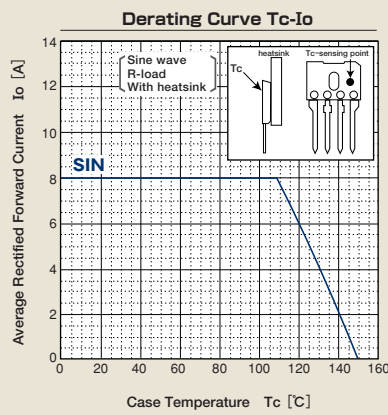
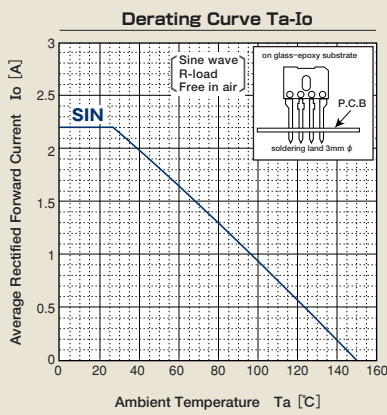
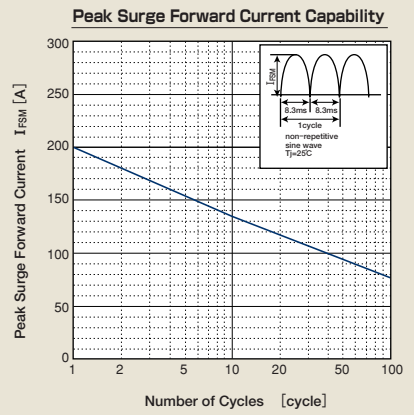
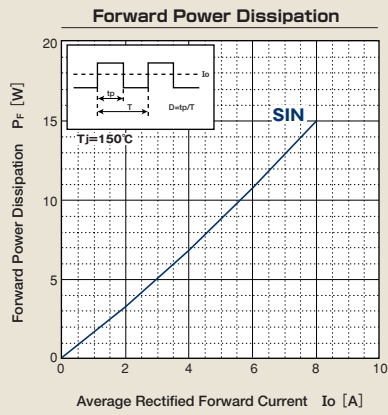
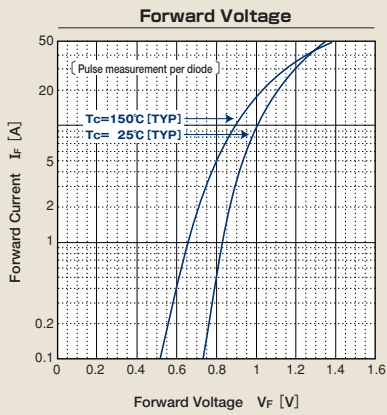


US6KB80R

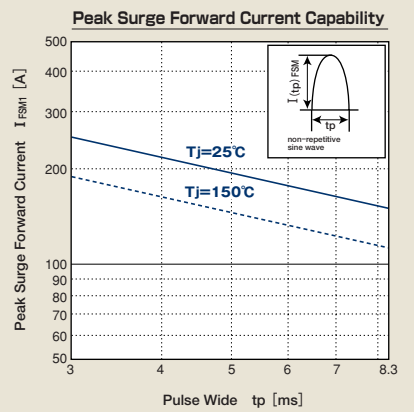
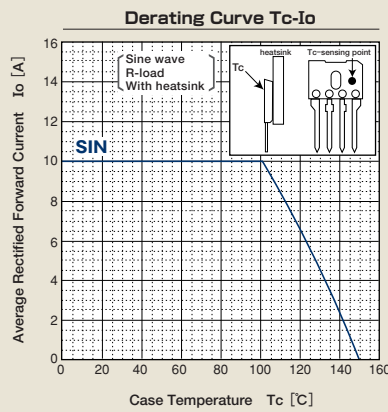
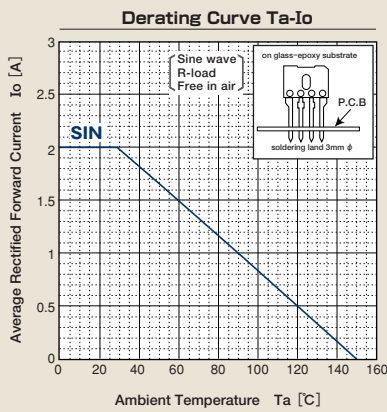
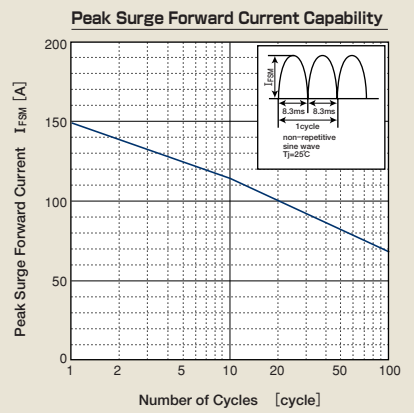
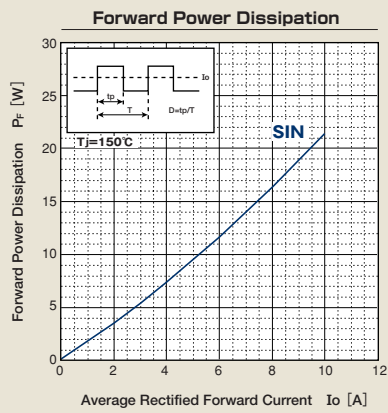
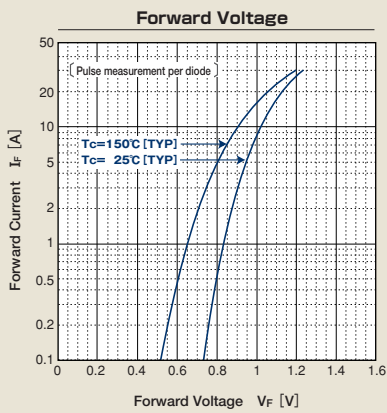


CHARACTERISTIC DIAGRAMS

US8KB80R

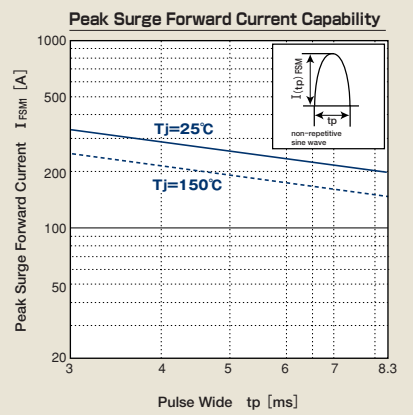
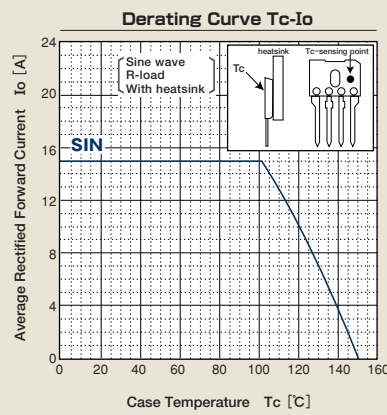
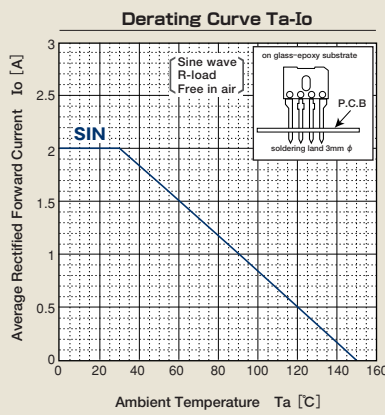
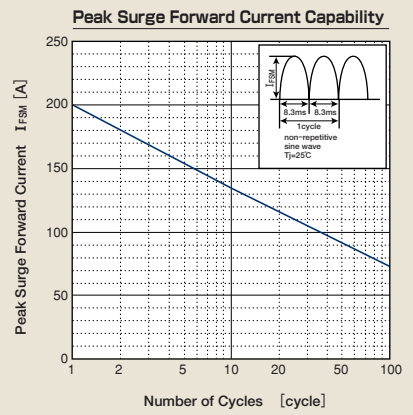
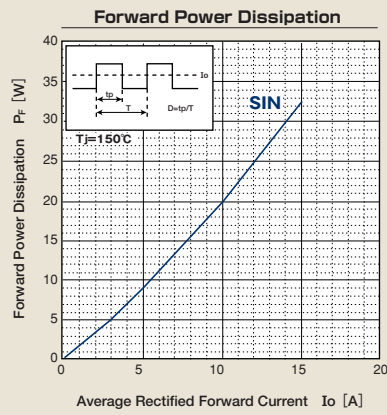
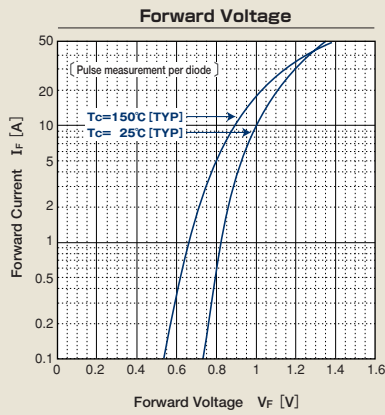


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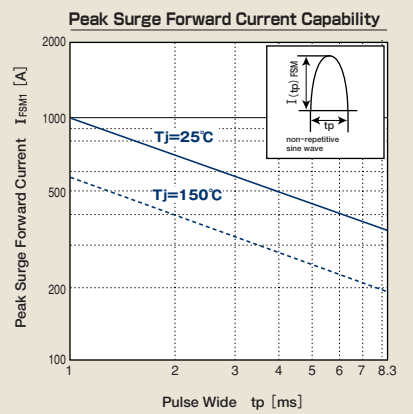
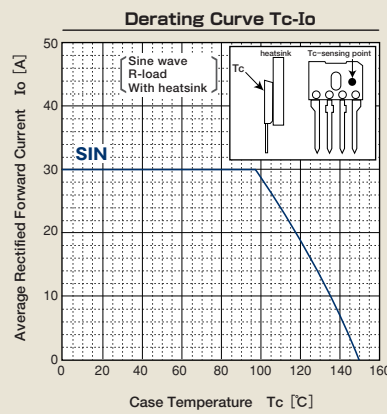
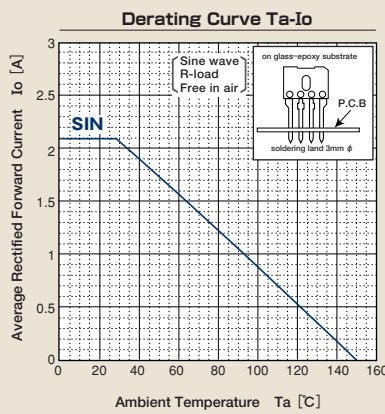
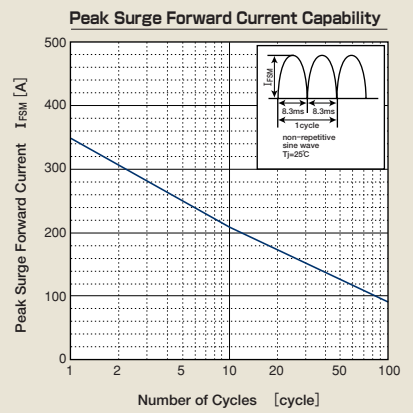
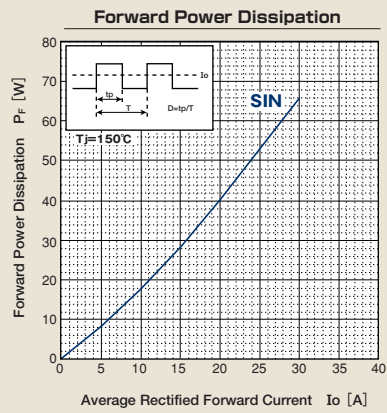
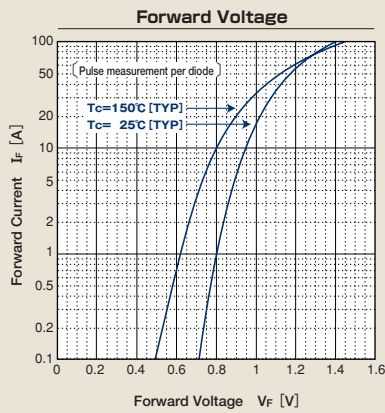


CHARACTERISTIC DIAGRAMS

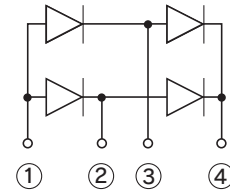
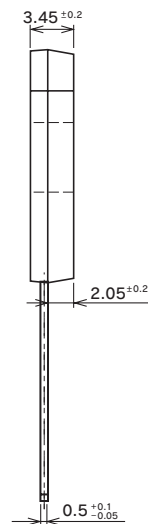
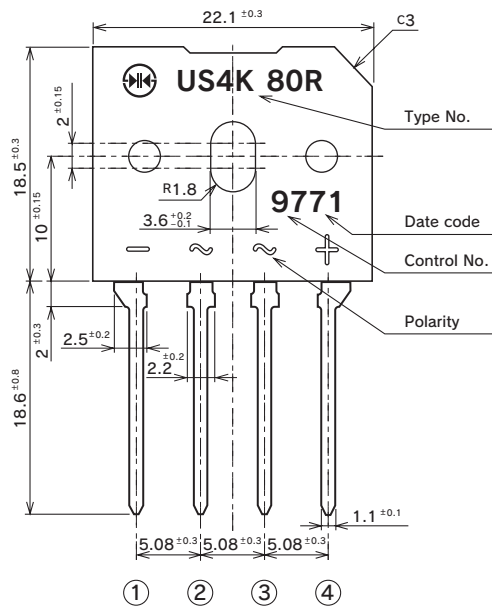
US15KB80R



US30KB80R



OUTLINE DIMENSIONS

Package : D6K


Unit : mm

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