DIODE MODULE (NON-ISOLATED TYPE)

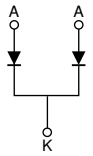
DKR300AB60

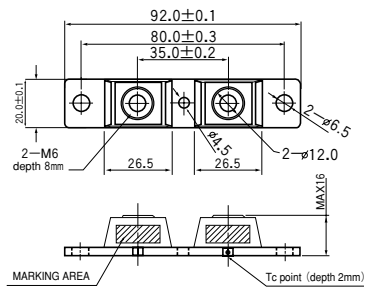
DKR300AB60 is a high speed (fast recovery) dual diode module designed for high power switching application. **DKR300AB60** is suitable for high frequency application requiring low loss and high speed control.

- High Speed Diode t_{rr}≦200ns
- $I_{F(AV)}$=150A (each device)
- Isolated Molded devices
- High Surge Capability

(**Applications**)

Switching Power Supply, Inverter Welding Power Supply
Power Supply for Telecommunication





Unit : mm

■Maximum Ratings

(Tj=25℃ unless otherwise specified)

Symbol	Item	Ratings	Unit
		DKR300AB60	
V_{RRM}	Repetitive peak reverse Voltage	600	V
$V_{R(DC)}$	D.C. Reverse Voltage	480	V

Symbol	Item		Condition	Ratings	Unit
I_F	Forward Current	Per module	D.C. T_C=124℃	300	A
		Per leg		150	
I_{FSM}	Surge Forward Current		½cycle, 60Hz, Peak value. non-repetitive	3600	A
			½cycle, 50Hz, Peak value. non-repetitive	3200	
I^2t	I^2t (for fusing)		Value for one cycle surge current	54000	A^2S
Tj	Operating Junction Temperature			−40 to +150	℃
Tstg	Storage Temperature			−40 to +125	℃
	Mounting Torque	Mounting (M6)	Recommended Value 25-40	48	(kgf·cm)
			Recommended Value 2.5-3.9	4.7	N·m
		Mounting (M4)	Recommended Value 10-14	15	(kgf·cm)
			Recommended Value 1.0-1.4	1.5	N·m
		Terminal (M6)	Recommended Value 25-40	48	(kgf·cm)
			Recommended Value 2.5-3.9	4.7	N·m
	Mass		Typical Value	80	g

■Electrical Characteristics

Symbol	Item	Condition	Ratings			Unit
			Min.	Typ.	Max.	
I_{RRM}	Repetitive Peak Reverse Current	Tj=125℃, V_D=V_{RRM}			200	mA
V_{FM}	Forward Voltage Drop	I_F=300A, Inst.measurement			1.4	V
trr	Reverse Recovery Time	I_F=300A, −di/dt=300A/μs		100	200	ns
Rth(j-c)	Thermal Impedance	Junction to case, ½module			0.063	℃/W

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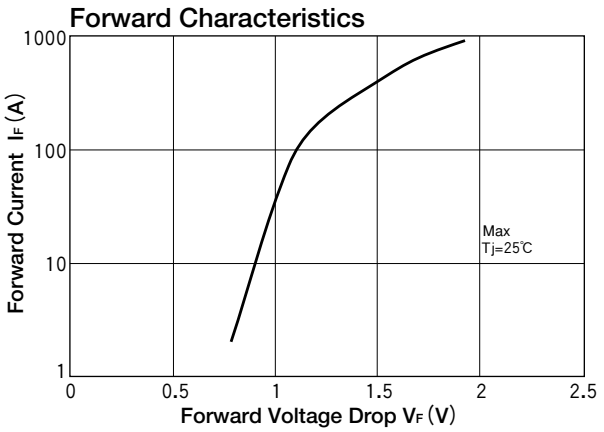
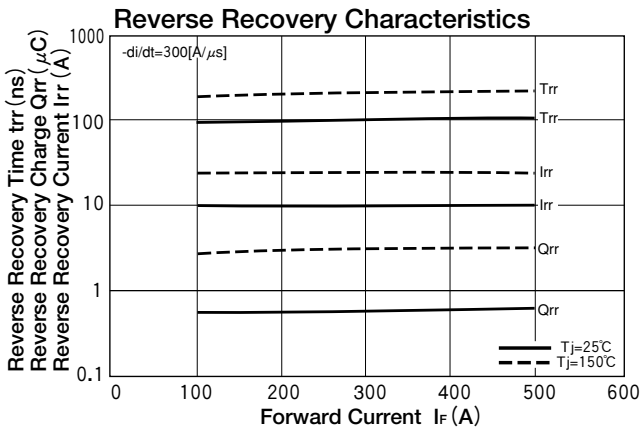
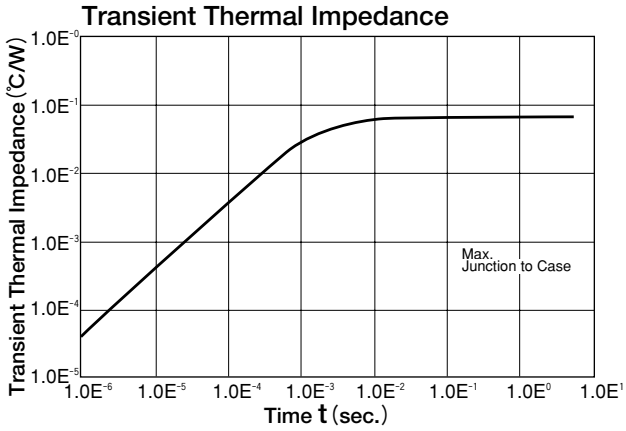
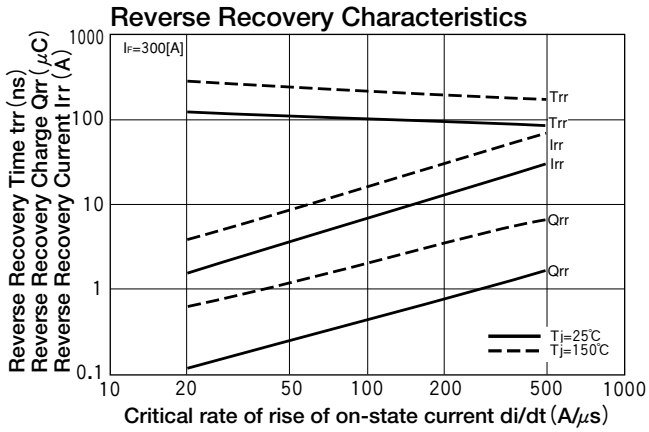

Forward Characteristics
Forward Current IF (A)
1000
100
10
1
0
0.5
1
1.5
2
2.5
Forward Voltage Drop VF (V)
Max
Tj=25℃


Reverse Recovery Characteristics
Reverse Recovery Time trr (ns)
Reverse Recovery Charge Qrr (μC)
Reverse Recovery Current Irr (A)
-di/dt=300[A/μs]
1000
100
10
1
0.1
0
100
200
300
400
500
600
Forward Current IF (A)
Trr
Trr
Irr
Irr
Qrr
Qrr
Tj=25℃
Tj=150℃


Transient Thermal Impedance
Transient Thermal Impedance (℃/W)
1.0E-0
1.0E-1
1.0E-2
1.0E-3
1.0E-4
1.0E-5
1.0E-6
1.0E-5
1.0E-4
1.0E-3
1.0E-2
1.0E-1
1.0E0
1.0E1
Time t (sec.)
Max.
Junction to Case


Reverse Recovery Characteristics
Reverse Recovery Time trr (ns)
Reverse Recovery Charge Qrr (μC)
Reverse Recovery Current Irr (A)
IF=300[A]
1000
100
10
1
0.1
10
20
50
100
200
500
1000
Critical rate of rise of on-state current di/dt (A/μs)
Trr
Trr
Irr
Irr
Qrr
Qrr
Tj=25℃
Tj=150℃