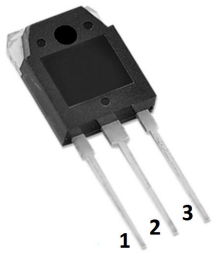
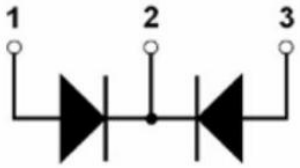
Features

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current



Applications

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS



Absolute Maximum Ratings

Parameter	Symbol	Test Conditions	Values	Unit
Maximum D.C. Reverse Voltage	V_R		400	V
Maximum Repetitive Reverse Voltage	V_{RRM}		400	
Average Forward Current	$I_{F(AV)}$	T_C=110°C,Per Diode	40	A
		T_C=110°C,Per Package	80	
RMS Forward Current	$I_{F(RMS)}$	T_C=110°C,Per Diode	56	A
Non-Repetitive Surge Forward Current	I_{FSM}	t=10ms，T_J=45℃，50Hz,Sin	400	A
Power Dissipation	P_D		156	W
Junction Temperature	T_J		-40~150	℃
Storage Temperature Range	T_{STG}		-40~150	
Thermal Resistance	$R_{\theta JC}$	Junction-to-Case	0.8	℃/W
Module-to-Sink	Torque	Recommended(M3)	1.1	N.m
	Weigh		6.0	g

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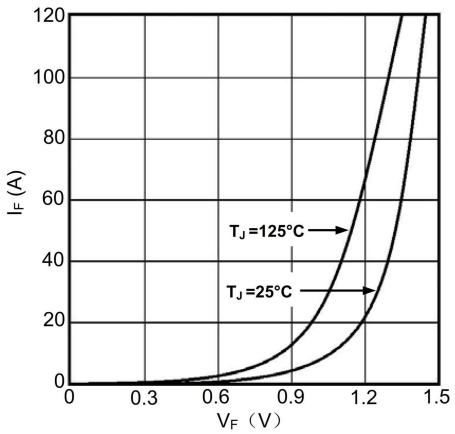
Electrical Characteristics(T_C=25°C unless otherwise specified)

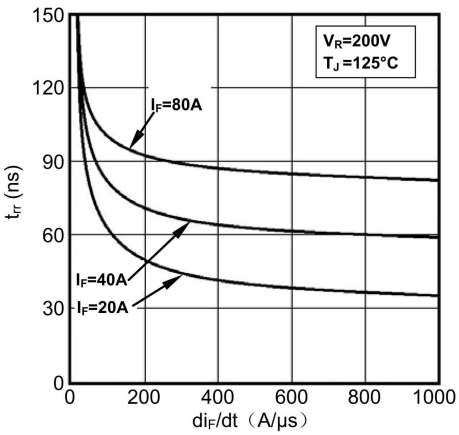
Parameter	Symbol	Test Conditions	Min.	Typ.	Max.	Unit
Reverse Leakage Current	I_{RM}	Tj=25℃,V_R=V_{RRM}	-	-	10	μA
		Tj=125℃,V_R=V_{RRM}	-	-	150	
Forward Voltage	V_F	IF=40A, T=25℃	-	1.3	1.8	V
		IF=40A, T=125℃	-	1.1		
Reverse Recovery Time	t_{rr}	IF=1A, V_R=30V, di /dt=-200A/μs	-	22	-	ns
Reverse Recovery Time	t_{rr}	IF=40A, V_R=200V, di /dt=-200A/μs,Tj=25℃	-	52	-	ns
Max.Reverse Recovery Current	I_{RRM}		-	4.5	-	A
Reverse Recovery Time	t_{rr}	IF=40A, V_R=200V, di /dt=-200A/μs,Tj=125℃	-	71	-	ns
Max.Reverse Recovery Current	I_{RRM}		-	9	-	A

Typical Performance Curves

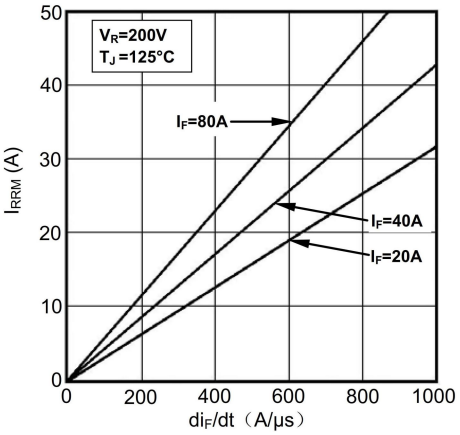
Forward Voltage Drop vs Forward Current



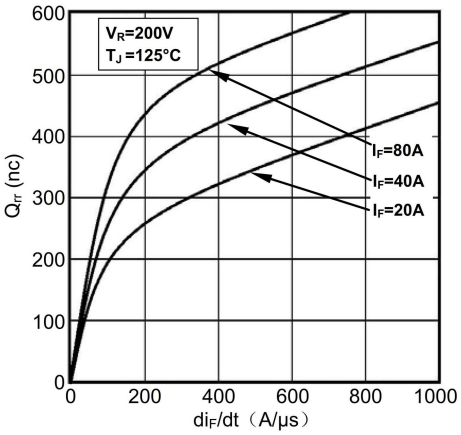
Reverse Recovery Time vs di_F/dt



Reverse Recovery Current vs di_F/dt



Reverse Recovery Charge vs di_F/dt



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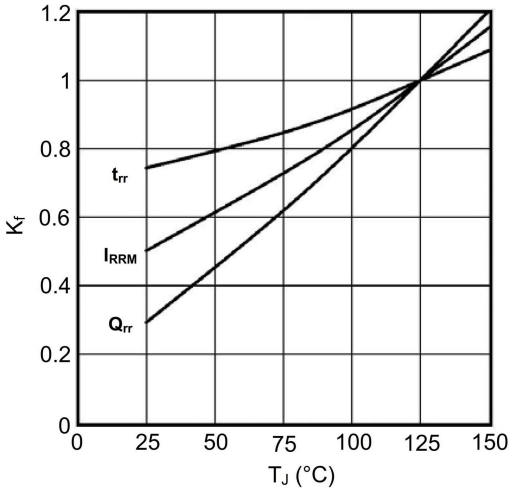
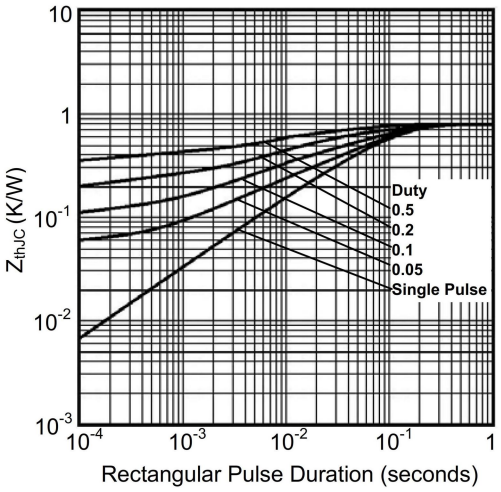
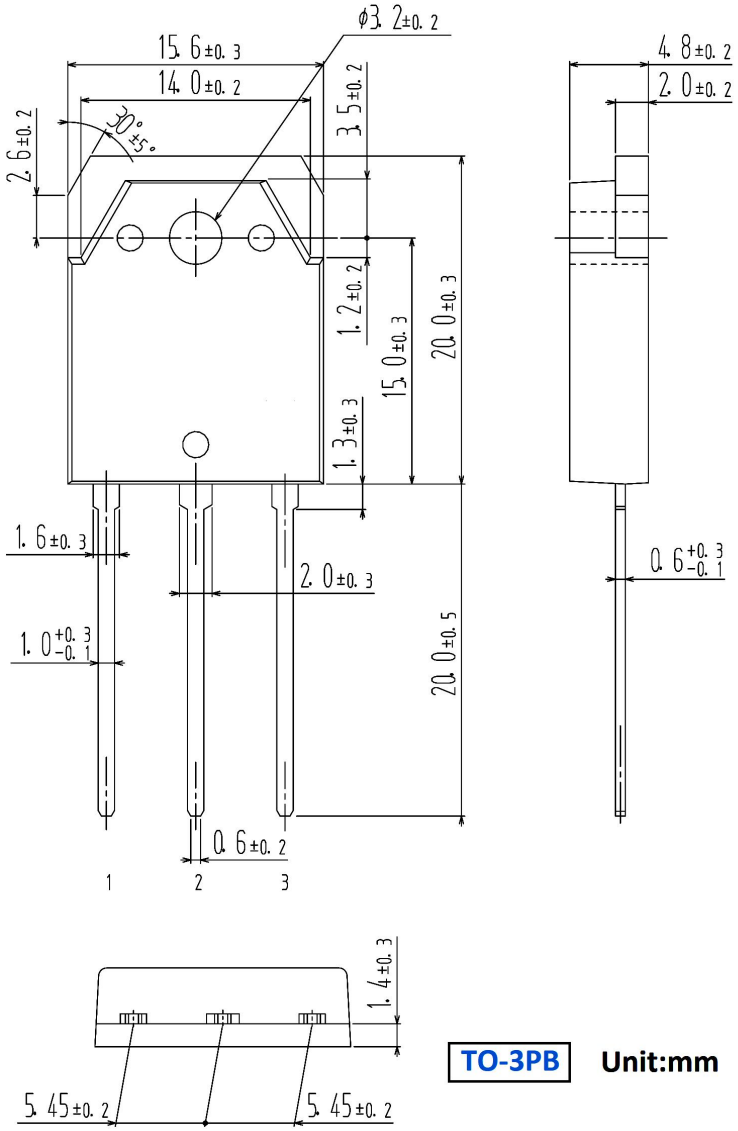
Dynamic Parameters vs Junction Temperature



Transient Thermal Impedance



Package outline dimension



TO-3PB Unit:mm

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