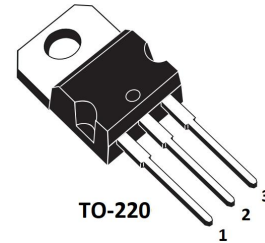


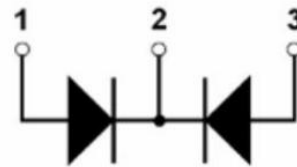
Features

- Planar passivated chips
- Very low leakage current
- Very short recovery time
- Improved thermal behaviour
- Very low I_{rm} -values
- Avalanche voltage rated for reliable operation
- Soft reverse recovery for low EMI/RFI
- Low I_{rm} reduces:
 - Power dissipation within the diode
 - Turn-on loss in the commutating switch



Applications

- Anti parallel diode for high frequency switching devices
- Anti saturation diode
- Snubber diode
- Free wheeling diode
- Rectifiers in switch mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)



Absolute Maximum Ratings vs. Electrical Characteristics

($T_C=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Conditions		Values	Unit
Maximum Repetitive Reverse Voltage	V_{RRM}			300	V
Reverse current	I_R	$V_R=300\text{V}$	$T_{vj}=25^\circ\text{C}$ $T_{vj}=150^\circ\text{C}$	1 0.06	μA mA
Forward voltage	V_F	$I_F=10\text{A}$	$T_{vj}=25^\circ\text{C}$	1.27	V
		$I_F=20\text{A}$	$T_{vj}=25^\circ\text{C}$	1.45	
		$I_F=10\text{A}$	$T_{vj}=150^\circ\text{C}$	0.98	
		$I_F=20\text{A}$	$T_{vj}=150^\circ\text{C}$	1.17	
Average Forward Current	$I_{F(AV)}$	Rectangular $d=0.5, T_C=145^\circ\text{C}$		10X2	A
Threshold Voltage	V_{F0}	Power loss calculation only, $T_{vj}=175^\circ\text{C}$		0.74	V
Slope resistance	r_F			17.7	m Ω

Thermal resistance junction to case	R_{thJC}		2.30	K/W
Virtual junction temperature	T_{vj}		-55~175	°C
Total power dissipation	P_{tot}	$T_C=25^{\circ}C$	65	W
Max.forward surge current	I_{FSM}	$T=10ms(50Hz),sine,$ $T_{vj}=45^{\circ}C$	140	A
Max.reverse recovery current	I_{RM}		$T_{vj}=25^{\circ}C$	A
		$I_F=10A,$ $V_R=200V$	$T_{vj}=150^{\circ}C$	
Reverse recovery time	t_{rr}		$T_{vj}=25^{\circ}C$	ns
		$-di_F/dt=$ $200A/\mu S$	$T_{vj}=150^{\circ}C$	
Junction capacitance	C_J	$V_R=150V,f=1MHz,$ $T_{vj}=25^{\circ}C$	15	pF
RMS current	I_{RMS}	Per pin ¹	35	A
Thermal resistance case to heatsink	R_{thCH}		0.50	K/W
Storage temperature	T_{stg}		-55~150	°C
Weight			2	g
Mounting torque	M_D		0.4~0.6	Nm
Mounting force with clip	F_C		20~60	N

1. is typically limited by: 1. pin-to-chip resistance; or by 2. current capability of the chip. In case of 1, a common cathode/anode configuration and a non-isolated backside, the whole current capability can be used by connecting the backside.

Electrical characteristics(Curves)

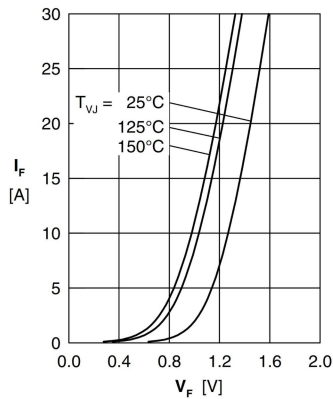


Fig. 1 Forward current I_F versus forward voltage drop V_F

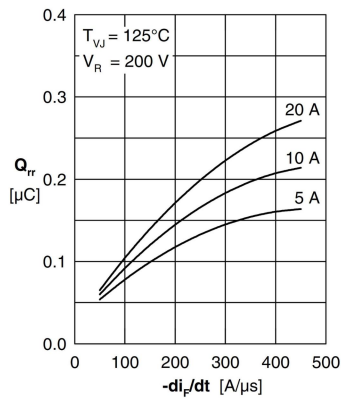


Fig. 2 Typ. reverse recovery charge Q_{rr} versus $-di_F/dt$

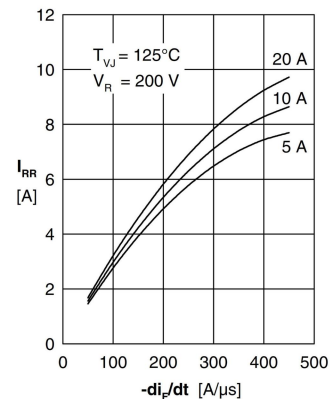


Fig. 3 Typ. reverse recovery current I_{RR} versus $-di_F/dt$

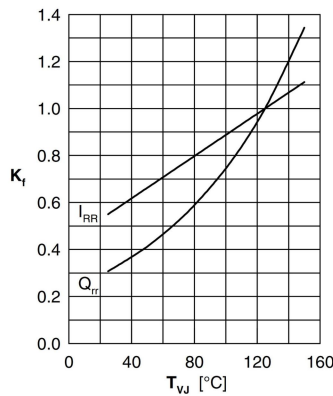


Fig. 4 Dynamic parameters Q_{rr} , I_{RR} versus T_{VJ}

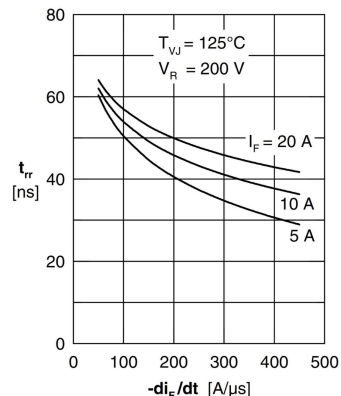


Fig. 5 Typ. reverse recovery time t_{rr} versus $-di_F/dt$

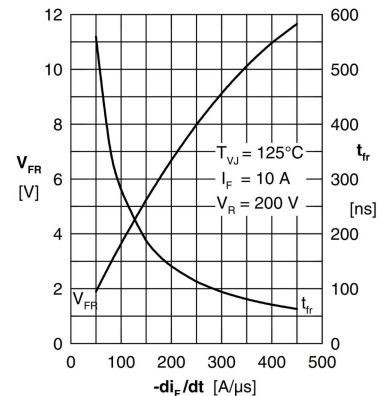


Fig. 6 Typ. forward recovery voltage V_{FR} and t_{fr} versus di_F/dt

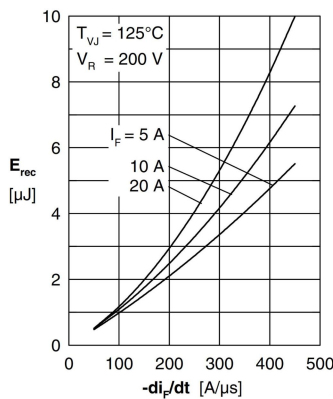


Fig. 7 Typ. recovery energy E_{rec} versus $-di_F/dt$

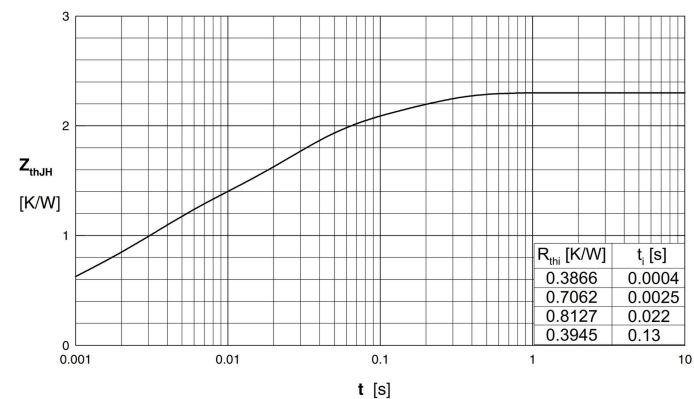


Fig. 8 Transient thermal resistance junction to case

Package outline dimension

