

Technical Data
Data Sheet N1241, Rev. B
Green Products
Maximum Ratings:

Characteristics	Symbol	Condition	Max.	Units	
Peak Inverse Voltage	V_{RWM}	-	45	V	
Max. Average Forward Current	$I_{F(AV)}$	50% duty cycle @ $T_C=80^\circ\text{C}$, rectangular wave form	300	per leg	A
			600	per device	
Max. Peak One Cycle Non-Repetitive Surge Current (per leg)	I_{FSM}	8.3 ms, half Sine pulse	4560	A	
Non-Repetitive Avalanche Energy(per leg)	E_{AS}	$T_J=25^\circ\text{C}, I_{AS}=40\text{A}, L=0.34\text{mH}$	270	mJ	
Repetitive Avalanche Current(per leg)	I_{AR}	Current decaying linearly to zero in 1 μsec Frequency limited by T_J max. $V_A=1.5 \times V_R$ typical	40	A	

Electrical Characteristics:

Characteristics	Symbol	Condition	Max.	Units
Max. Forward Voltage Drop (per leg) *	V_{F1}	@ 300A, Pulse, $T_J = 25^\circ\text{C}$	0.65	V
	V_{F2}	@ 300A, Pulse, $T_J = 125^\circ\text{C}$	0.60	V
Max. Reverse Current (per leg) *	I_{R1}	@ $V_R = \text{rated } V_R, T_J = 25^\circ\text{C}$	20	mA
	I_{R2}	@ $V_R = \text{rated } V_R, T_J = 125^\circ\text{C}$	2400	mA
Max. Junction Capacitance (per leg)	C_T	@ $V_R = 5\text{V}, T_C = 25^\circ\text{C}$ $f_{SIG} = 1\text{MHz}$	10300	pF
Typical Series Inductance (per leg)	L_S	Measured lead to lead 5 mm from package body	5.0	nH
Max. Voltage Rate of Change	dv/dt	-	10,000	V/ μs
Insulation Voltage	V_{RMS}	-	1000	V

* Pulse Width < 300 μs , Duty Cycle <2%

Thermal-Mechanical Specifications:

Characteristics	Symbol	Condition	Specification	Units	
Max. Junction Temperature	T_J	-	-55 to +125	$^\circ\text{C}$	
Max. Storage Temperature	T_{stg}	-	-55 to +125	$^\circ\text{C}$	
Maximum Thermal Resistance Junction to Case (per leg)	$R_{\theta JC}$	DC operation	0.20	$^\circ\text{C/W}$	
Maximum Thermal Resistance Junction to Case (per package)	$R_{\theta JC}$	DC operation	0.10	$^\circ\text{C/W}$	
Typical Thermal Resistance, case to Heat Sink	$R_{\theta cs}$	Mounting surface, smooth and greased	0.10	$^\circ\text{C/W}$	
Mounting Torque	T_M	-	Mounting Torque	24(min) 35(max)	Kg-cm
			Terminal Torque	35(min) 46(max)	
Approximate Weight	wt	-	79	g	
Case Style	PRM4 Non-Isolated				

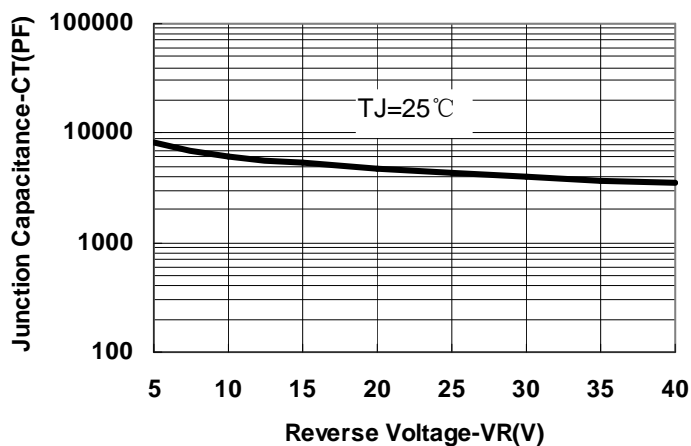


Fig.1-Typical Junction Capacitance

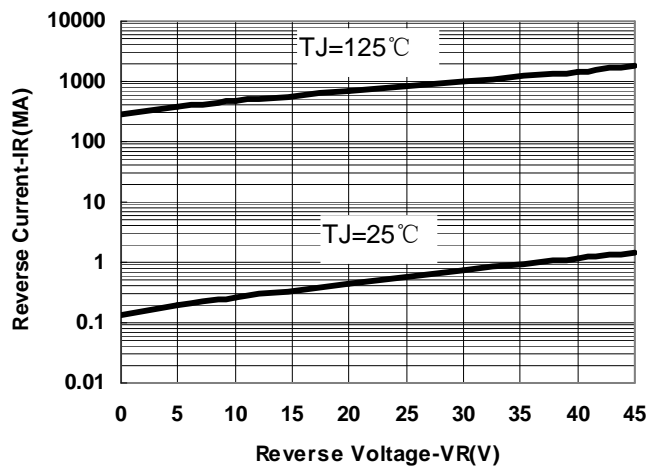


Fig.2-Typical Reverse Characteristics

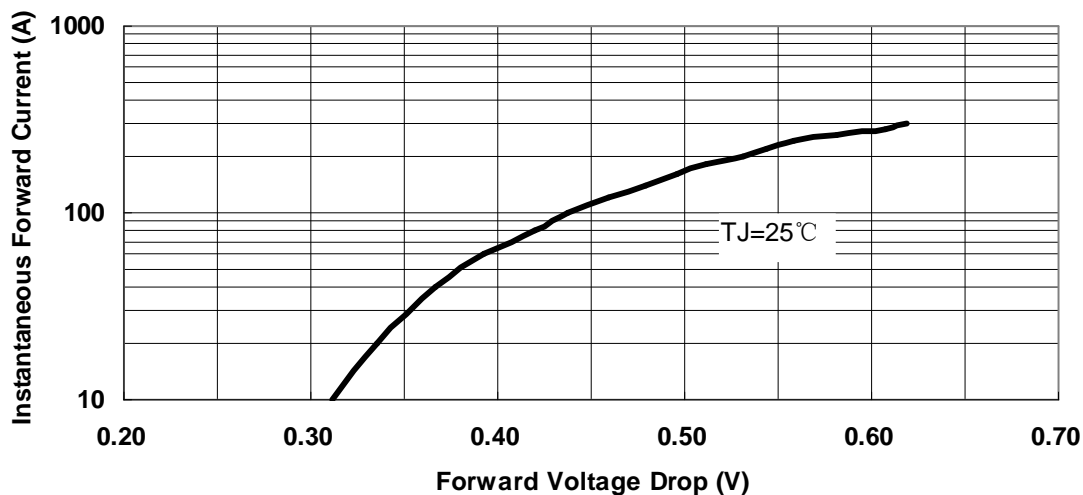


Fig.3-Typical Instantaneous Forward Voltage Characteristics

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