Electrical Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Test Conditions
V_{BR}	Cathode Anode Breakdown Voltage	600	—	—	V	I_R = 100µA
V_{FM}	Max. Forward Voltage See Fig. 1	—	—	1.55	V	I_F = 22A, T_J = -55°C
		—	—	1.75		I_F = 22A, T_J = 25°C
		—	—	2.25		I_F = 45A, T_J = 25°C
		—	—	1.64		I_F = 22A, T_J = 125°C
I_{RM}	Max. Reverse Leakage Current	—	—	10	µA	V_R = V_R Rated
	See Fig. 2			1.0	mA	V_R = 480V T_J = 125°C
C_T	Junction Capacitance, See Fig. 3	—	56	59	pF	V_R = 200V
L_S	Series Inductance	—	8.7	—	nH	Measured from center of bond pad to end of anode bonding wire

Dynamic Recovery Characteristics @ T_J = 25°C (unless otherwise specified)

	Parameter	Min.	Typ.	Max.	Units	Test Conditions	
t_{rr1}	Reverse Recovery Time	—	60	97	ns	T_J = 25°C	I_F = 22A
t_{rr2}	See Fig. 5	—	110	165		T_J = 125°C	
I_{RRM1}	Peak Recovery Current	—	5.2	11	A	T_J = 25°C	V_R = 200V
I_{RRM2}	See Fig. 6	—	8.5	13		T_J = 125°C	
Q_{rr1}	Reverse Recovery Charge	—	190	380	nC	T_J = 25°C	di_f/dt = 200A/µs
Q_{rr2}	See Fig. 7	—	560	840		T_J = 125°C	
$di_{(rec)M}/dt1$	Peak Rate of Fall of Recovery Current	—	270	400	A/µs	T_J = 25°C	
$di_{(rec)M}/dt1$	During tb - See Fig. 8	—	170	250		T_J = 125°C	

Thermal - Mechanical Characteristics

	Parameter	Typ.	Max.	Units
$R_{\theta JC}$	Junction-to-Case, Single Leg Conducting	—	1.5	°C/W
Wt	Weight	9.3	—	g

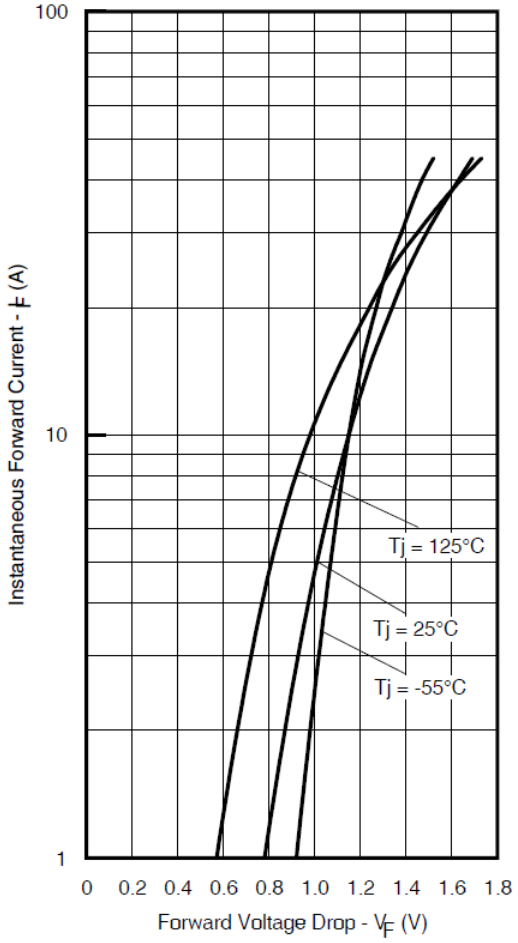


Fig. 1 Typical Forward Voltage Drop
Vs. Instantaneous Forward Current

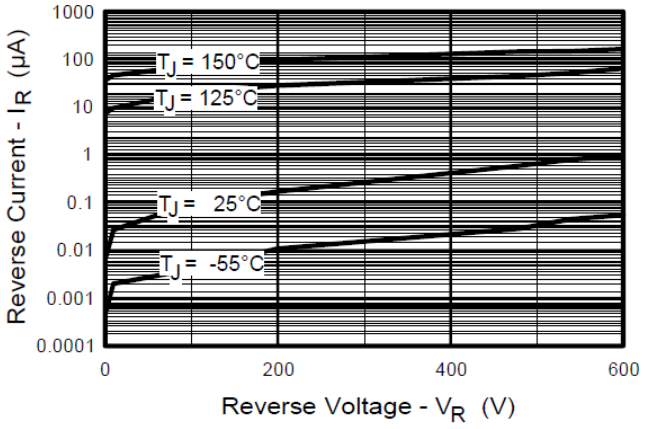


Fig. 2 Typical Values of Reverse Current
Vs. Reverse Voltage

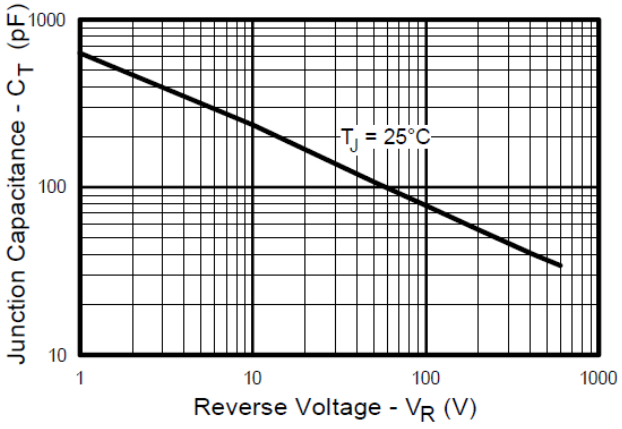


Fig. 3 Typical Junction Capacitance
Vs. Reverse Voltage

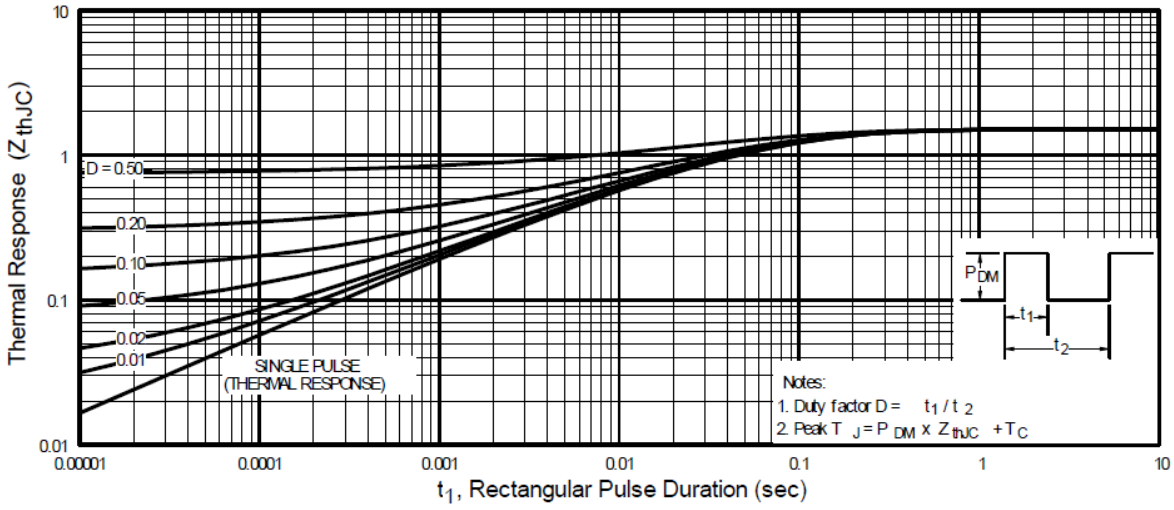


Fig. 4 Maximum Thermal Impedance Z_{thJC} Characteristics

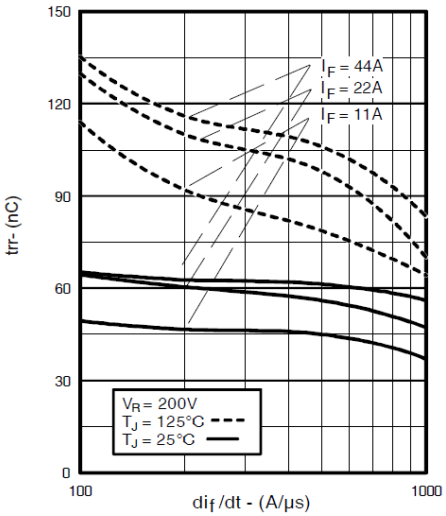


Fig. 5 Typical Reverse Recovery Vs di_f/dt

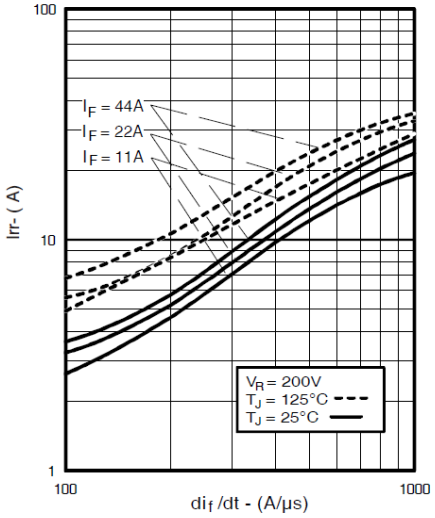


Fig. 6 Typical Recovery Current Vs di_f/dt

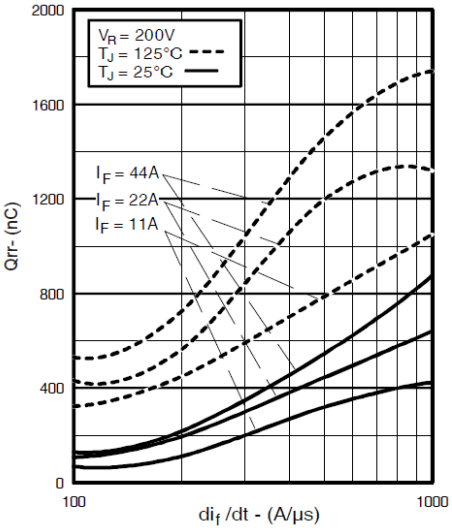


Fig. 7 Typical Stored Charge Vs di_f/dt

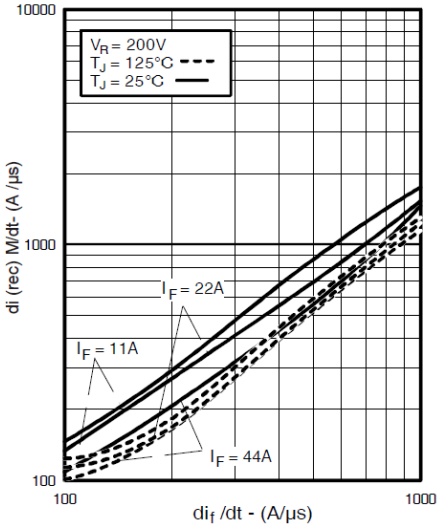


Fig. 8 Typical $di_{(rec)M}/dt$ Vs di_f/dt

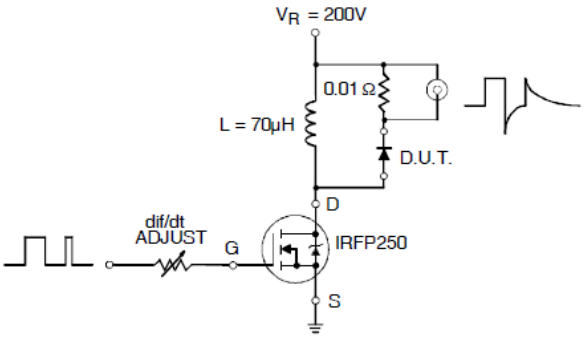
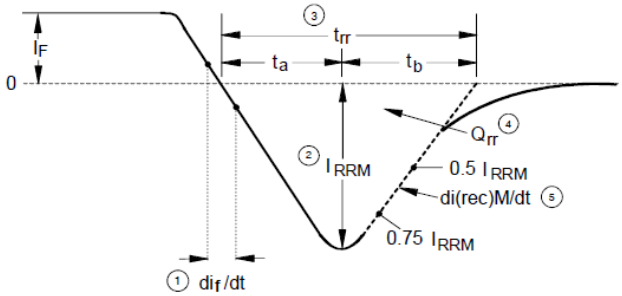


Fig. 9 Typical Reverse Recovery Parameter Test Cir-

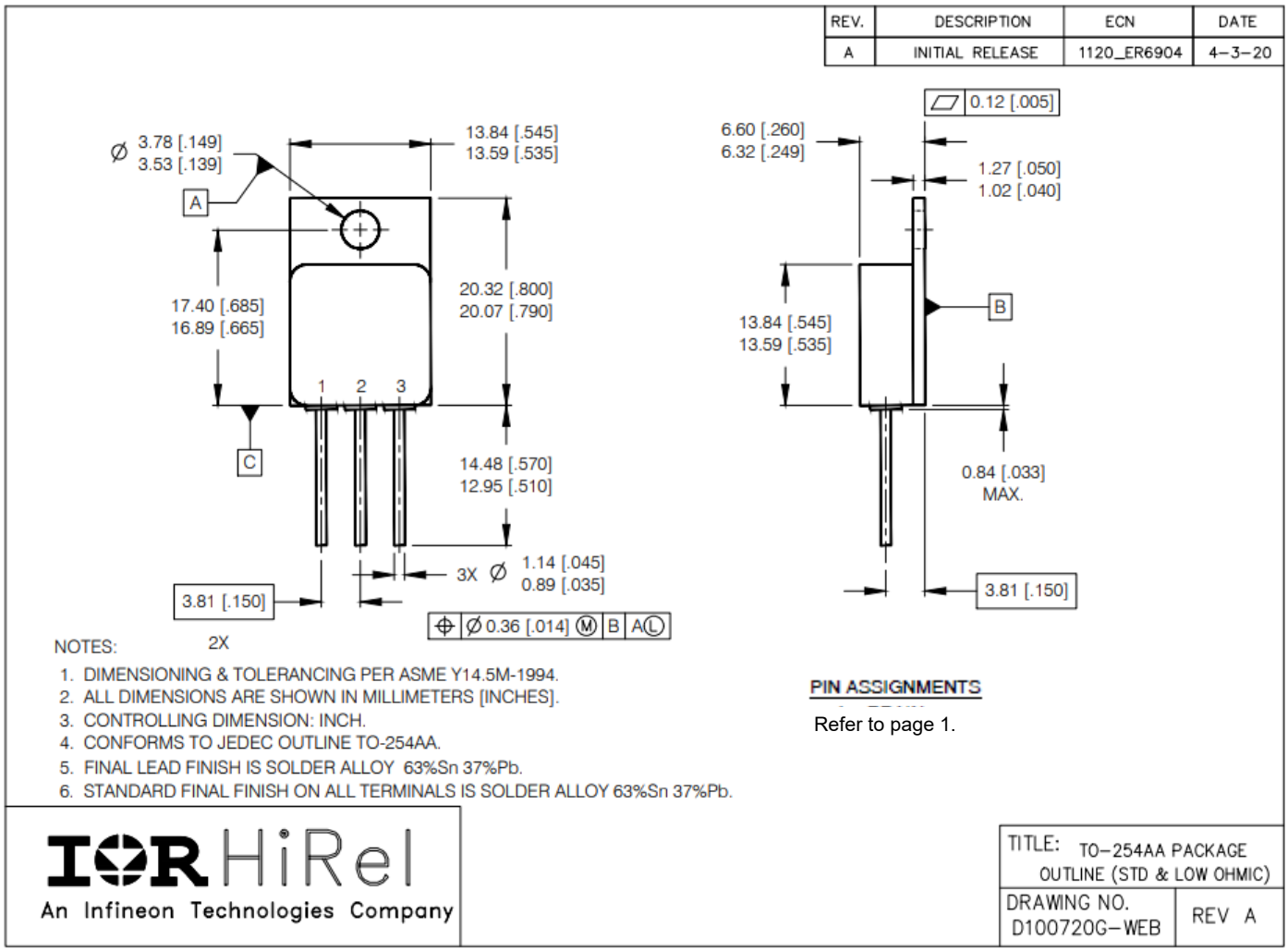


① di_f/dt - Rate of change of current through zero crossing.
② I_{RRM} - Peak reverse recovery current.
③ t_{rr} - Reverse recovery time measured from zero crossing point of negative going I_F to point where a line passing through $0.75I_{RRM}$ and $0.5I_{RRM}$ extrapolated to zero current.
④ Q_{rr} - Area under curve defined by t_{rr} and I_{RRM} - $Q_{rr} = (t_{rr} \times I_{RRM}) / 2$
⑤ $di_{(rec)M}/dt$ - Peak rate of change of current during t_b position of t_{rr}.

Fig. 10 Reverse Recovery Waveform and Definitions

Note: For the most updated package outline, please see the website: TO-254AA

Case Outline and Dimensions - Low-Ohmic TO-254AA



BERYLLIA WARNING PER MIL-PRF-19500

Package containing beryllia shall not be ground, sandblasted, machined, or have other operations performed on them which will produce beryllia or beryllium dust. Furthermore, beryllium oxide packages shall not be placed in acids that will produce fumes containing beryllium.

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