



Main Product Characteristics:

Features and Benefits:

Description:

Absolute Max Rating:

Symbol	Parameter	Max.	Units
$I_D @ T_C = 25^\circ C$	Continuous Drain Current, $V_{GS} @ 10V$	80	
$P_D @ T_C = 25^\circ C$	Power Dissipation	108	W
V_{DS}	Drain-Source Voltage	60	V
V_{GS}	Gate-to-Source Voltage	± 20	V
E_{AS}	Single Pulse Avalanche Energy @ $L=0.5mH$		
$T_J \quad T_{STG}$	Operating Junction and Storage Temperature Range	-55 to +150	$^\circ C$



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Thermal Resistance

Symbol	Characterizes	Typ.	Max.	Units
	Junction-to-case			

Electrical Characterizes

Symbol	Parameter	Min.	Typ.	Max.	Units	Conditions
$V_{(BR)DSS}$	Drain-to-Source breakdown voltage	60			V	$V_{GS} = 0V, I_D$
$R_{DS(on)}$	Static Drain-to-Source on-resistance		5.7	7	m	$V_{GS}=10V, I_D =30A$
$V_{GS(th)}$	Gate threshold voltage	2		4	V	$V_{DS} = V_{GS}, I_D$
I_{DSS}	Drain-to-Source leakage current			1		$V_{DS} =60V, V_{GS} = 0V$
I_{GSS}	Gate-to-Source forward leakage			100	nA	$V_{GS} =20V$
				-100		$V_{GS} = -20V$
Q_g	Total gate charge		71.2		nC	$I_D = 30A,$ $V_{DS}=30V,$ $V_{GS} = 15V$
Q_{gs}	Gate-to-Source charge		16.4			
Q_{gd}	Gate-to-Drain("Miller") charge		23.3			
$t_{d(on)}$	Turn-on delay time		18.6		ns	$V_{GS}=10V, V_{DS}=30V,$ $R_{GEN}=3$ $I_D = 30A$
t_r	Rise time		11.6			
$t_{d(off)}$	Turn-Off delay time		106			
t_f	Fall time		60.8			
C_{iss}	Input capacitance		3934		pF	$V_{GS} = 0V$
C_{oss}	Output capacitance		209			$V_{DS} = 50V$
C_{rss}	Reverse transfer capacitance					1MHz



Test Circuits and Waveforms

EAS Test Circuit:

Gate Charge Test Circuit:



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Typical Electrical and Thermal Characteristics

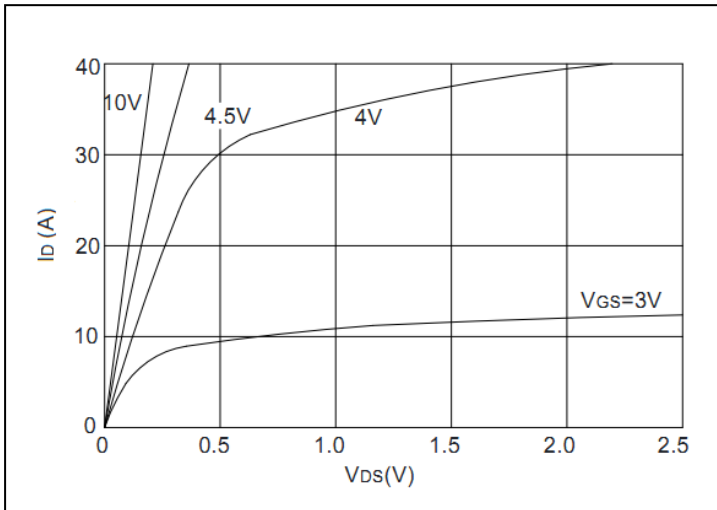


Figure1. Typical Output Characteristics

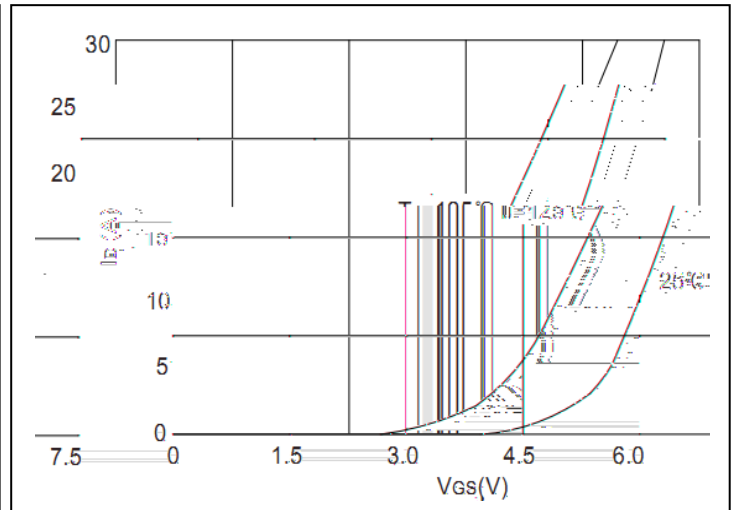


Figure2. Transfer Characteristics

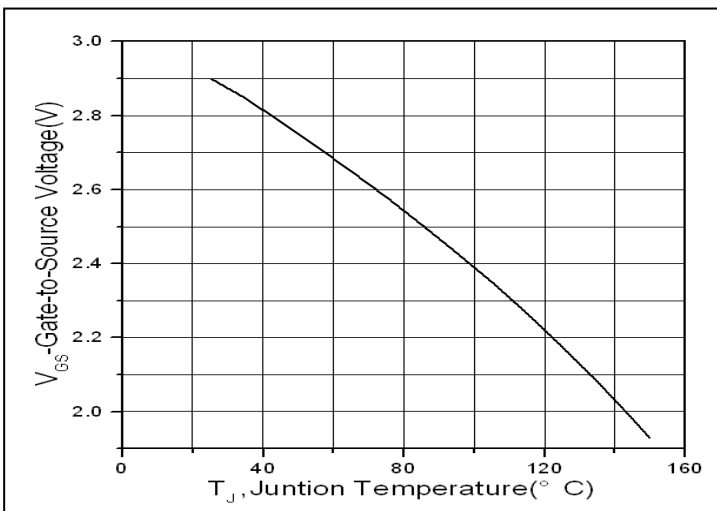


Figure 3. Gate to Source Cut-off Voltage

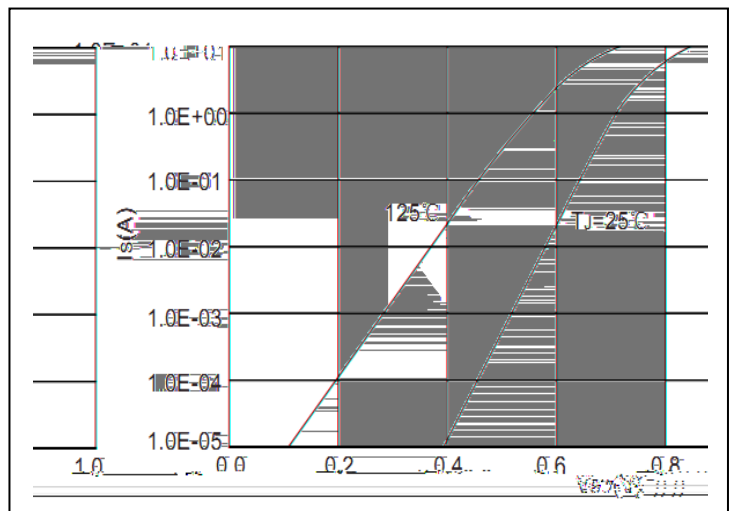


Figure 4. Body Diode Characteristics

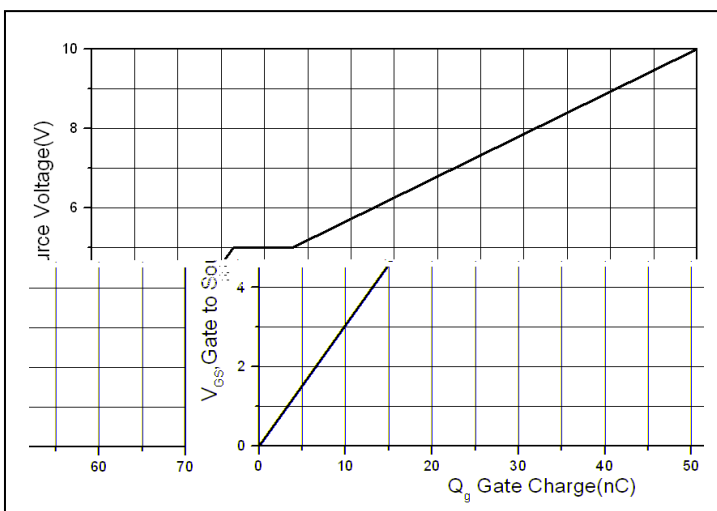


Figure5. Gate Charge

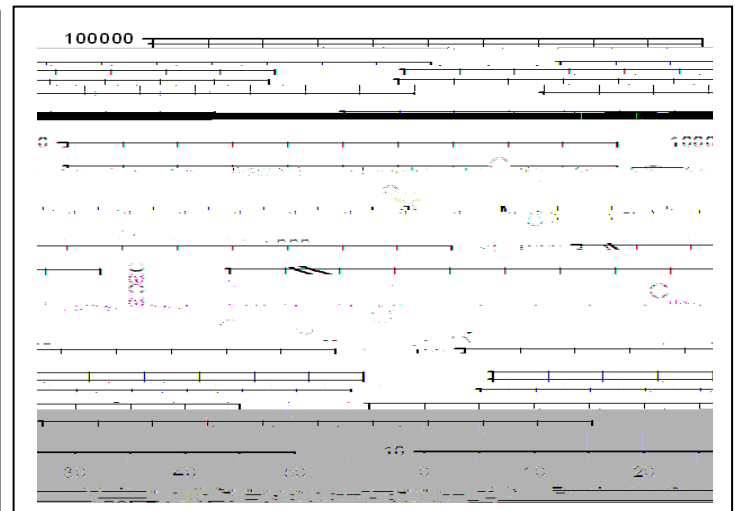


Figure6. Capacitance

Typical Electrical and Thermal Characteristics

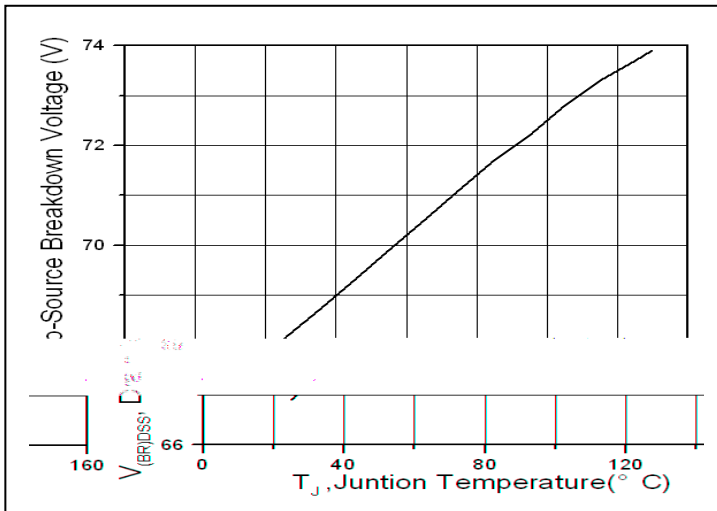


Figure 7. Drain-to-Source Breakdown Voltage vs. Temperature

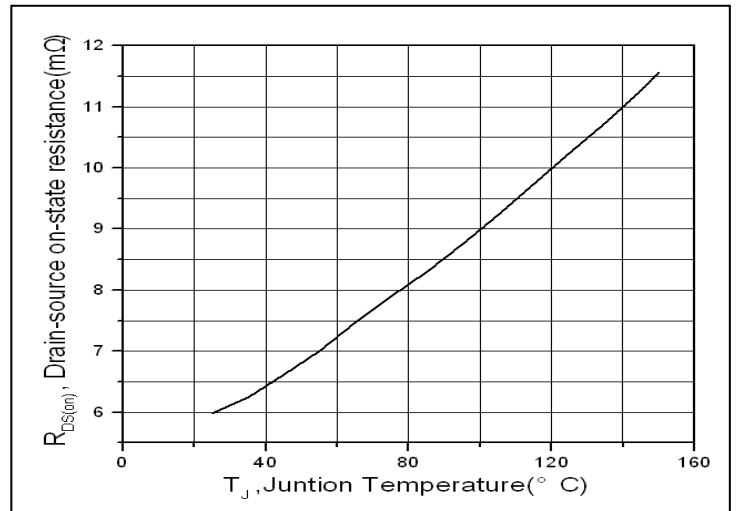


Figure 8. Normalized On-Resistance vs. Junction Temperature

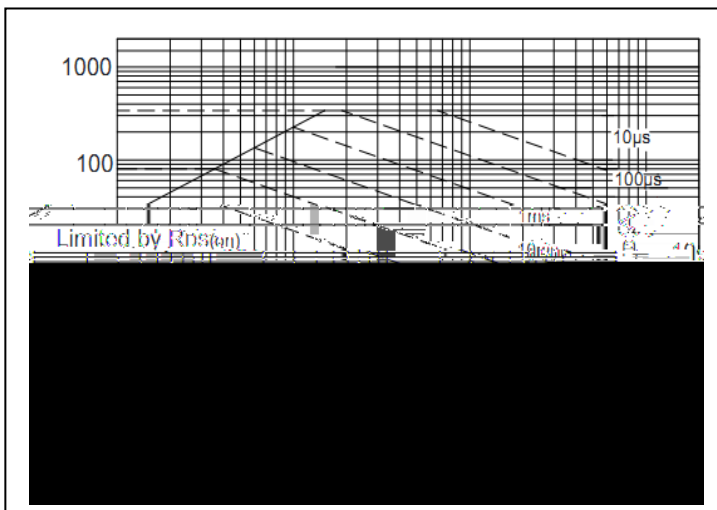


Figure 9. Safe Operating Area

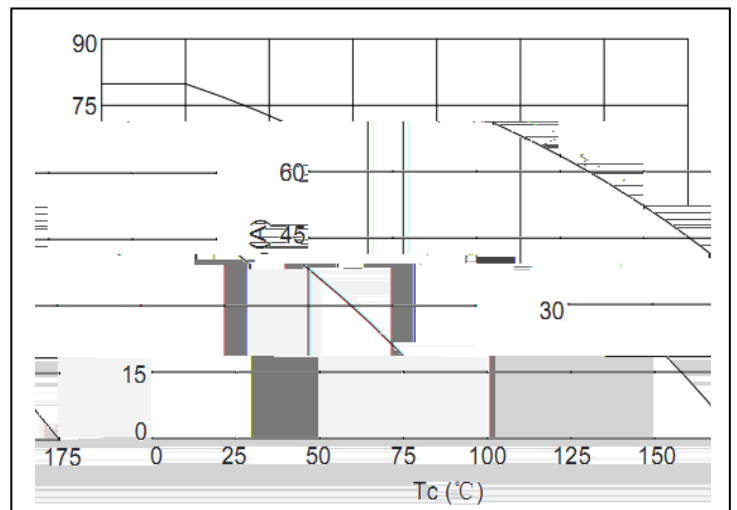


Figure 10. Drain Current vs. Case Temperature

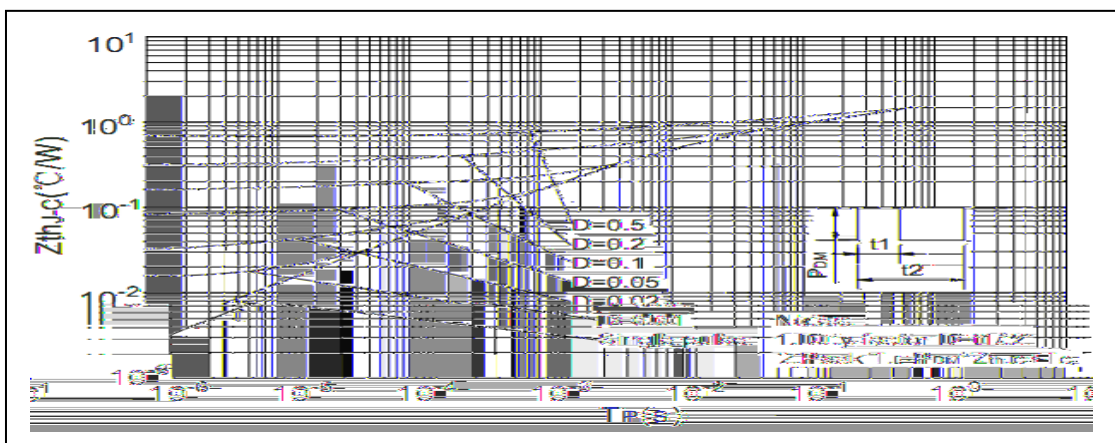
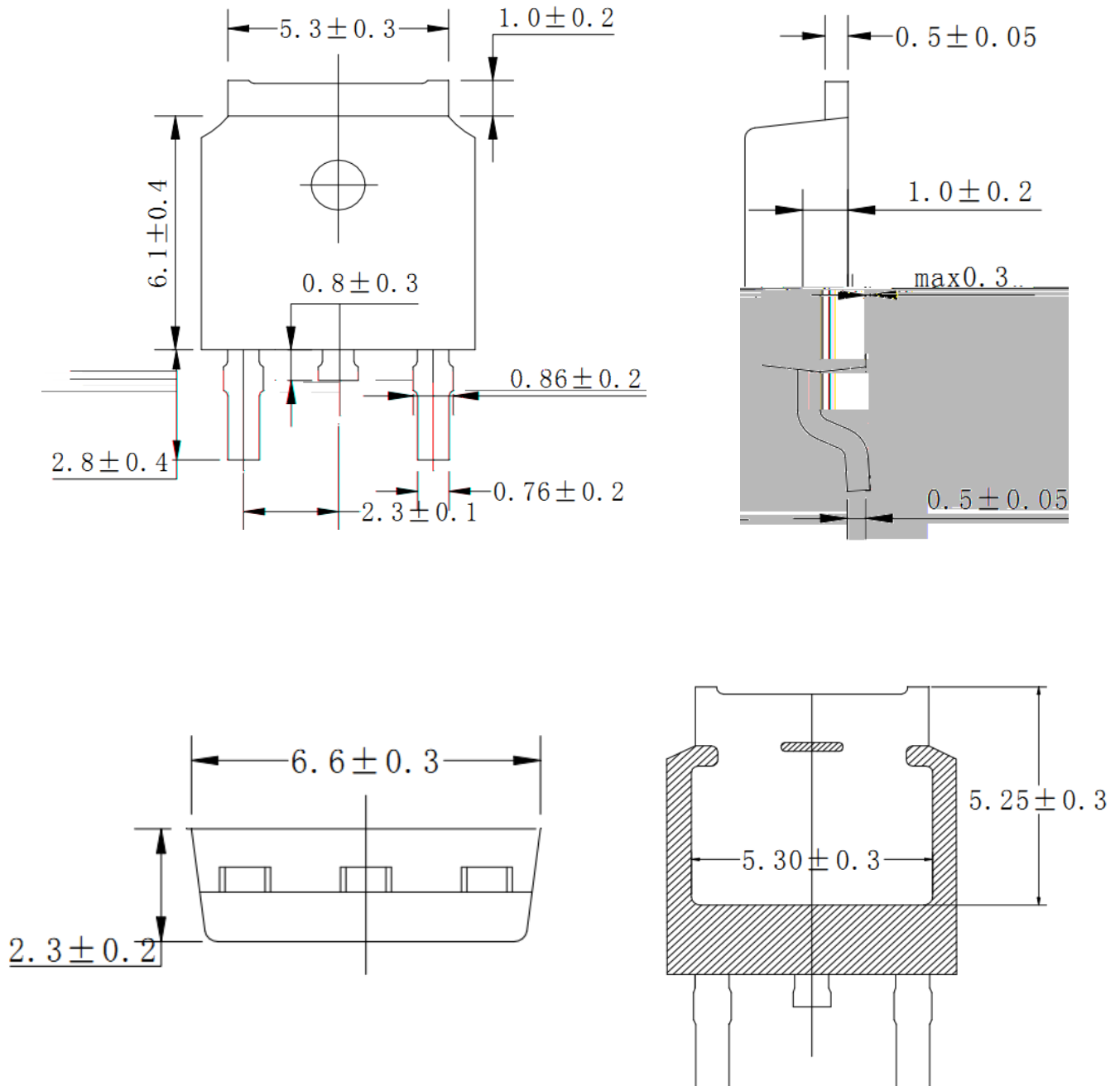


Figure 11. Normalized Maximum Transient Thermal Impedance

Mechanical Data

TO-252 Package Outline(Unit:mm)

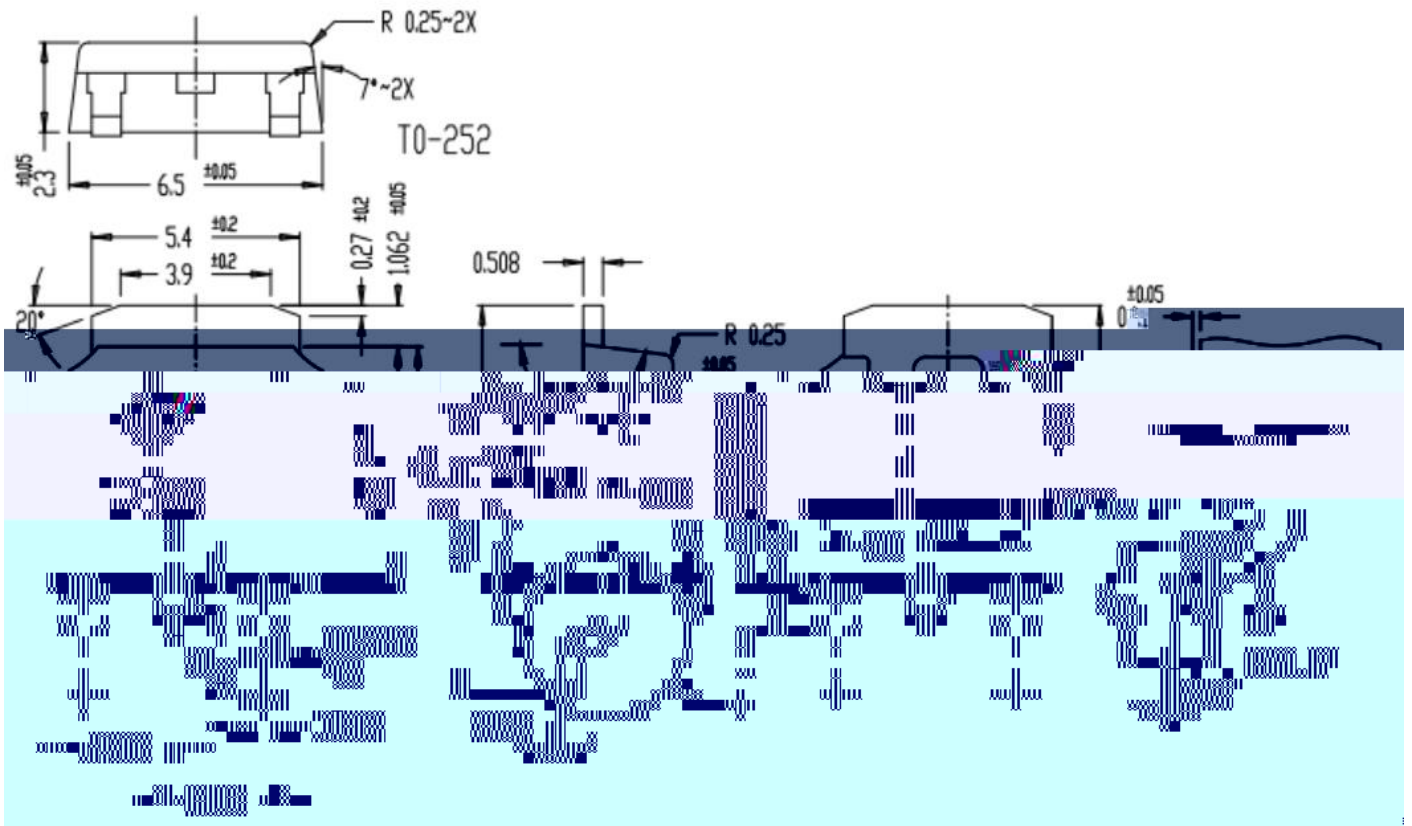
Option1:





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Option2:





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