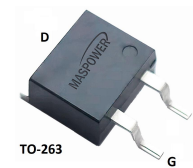
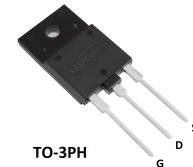
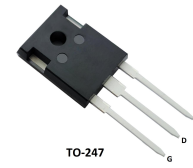
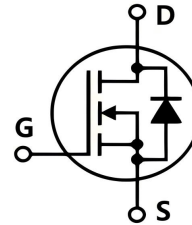


Features

- 100% avalanche tested
- Avalanche ruggedness
- Gate charge minimized
- Very low intrinsic capacitances
- High speed switching
- Very low on-resistance



Applications

- Welder
- UPS
- PV Inverter
- Switching applications

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Drain-source voltage ($V_{GS} = 0$)	V_{DS}	1500	V
Gate- source voltage	V_{GS}	± 30	
Drain current (continuous) at $T_C = 25^\circ\text{C}$	I_D	6	A
Drain current (continuous) at $T_C = 100^\circ\text{C}$		4	
Drain current (pulsed)	I_{DM}	24	
Avalanche current, repetitive or not-repetitive (pulse width limited by T_J max)	I_{AR}	5	A
Single pulse avalanche energy (starting $T_J = 25^\circ\text{C}$, $I_D = I_{AR}$, $V_{DD} = 50\text{ V}$)	E_{AS}	62.5	mJ
Total dissipation at $T_C = 25^\circ\text{C}$ TO-247/TO-263	P_{TOT}	160	W
Total dissipation at $T_C = 25^\circ\text{C}$ TO-3PH	P_{TOT}	62.5	W
Derating factor		2.56	W/ $^\circ\text{C}$
Operating junction temperature	T_J	-55 to 150	$^\circ\text{C}$
Storage temperature	T_{stg}		
Maximum lead temperature for soldering purpose	T_L	300	$^\circ\text{C}$

Electrical Characteristics ($T_{vj} = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
On /off states						
Drain-source breakdown voltage	V _{(BR)DSS}	I _D = 250μA, V _{GS} = 0	1500			V
Zero gate voltage drain current (V _{GS} = 0)	I _{DSS}	V _{DS} = Max rating V _{DS} =Max rating, T _C =125 °C			10 500	μA
Gate-body leakage current (V _{DS} = 0)	I _{GSS}	V _{GS} = ± 30 V			± 100	nA
Gate threshold voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 μA	3	4	5	V
Static drain-source on resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 2A	-	3.8	4.5	Ω
Dynamic						
Forward trans-conductance	g _{fs}	V _{DS} = 15 V, I _D = 2A		3.5		S
Input capacitance	C _{iss}	V _{DS} =25V,f=1MHz,V _{GS} =0		1300		pF
Output capacitance	C _{oss}			120		
Reverse transfer capacitance	C _{rss}			12		
Gate input resistance	R _g	f=1MHz Gate DC Bias=0 Test signal level=20mV open drain		2.2		Ω
Turn-on delay time	t _{d(on)}	V _{DD} = 750 V, I _D =3 A, R _G = 4.7 Ω, V _{GS} = 10 V		50		ns
Rise time	t _r			16		
Turn-off-delay time	t _{d(off)}			100		
Fall time	t _f			80		
Total gate charge	Q _g	V _{DD} =1200V,I _D =6A V _{GS} =10V		85		nC
Gate-source charge	Q _{gs}			14		
Gate-drain charge	Q _{gd}			48		
Source drain diode						
Source-drain current	I _{SD}				6	A
Source-drain current (pulsed)	I _{SDM}				24	

Forward on voltage	V_{SD}	$I_{SD} = 6\text{ A}, V_{GS} = 0$	-	1.5	2.0	V
Reverse recovery time	t_{rr}	$I_{SD} = 6\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$ $V_{DD} = 60\text{ V}$		950		ns
Reverse recovery charge	Q_{rr}			9		μC
Reverse recovery current	I_{RRM}			20		A
Reverse recovery time	t_{rr}	$I_S = 6\text{ A}, di/dt = 100\text{ A}/\mu\text{s}$ $V_{DD} = 60\text{ V}, T_J = 150^\circ\text{C}$		900		ns
Reverse recovery charge	Q_{rr}			8.5		μC
Reverse recovery current	I_{RRM}			19		A

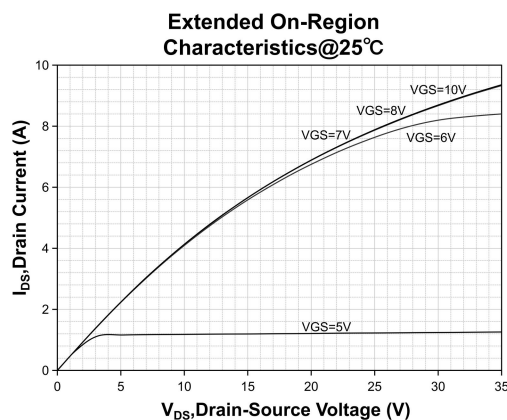
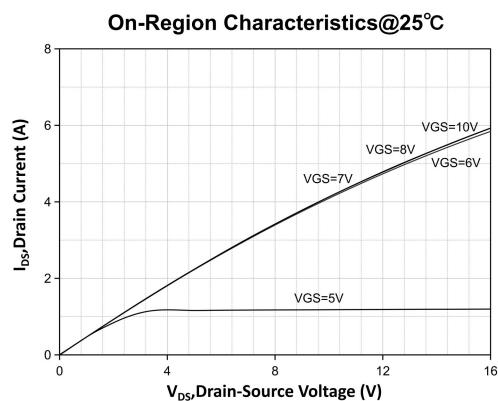
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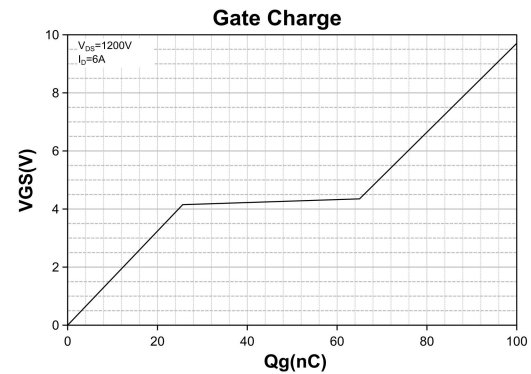
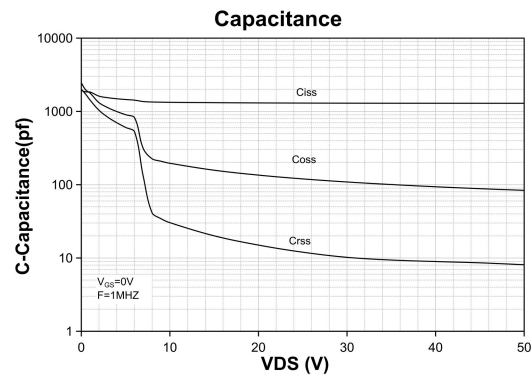
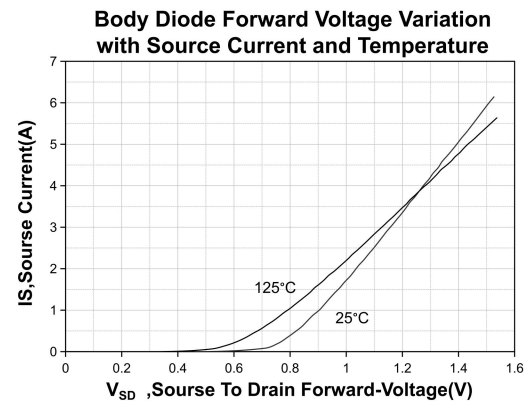
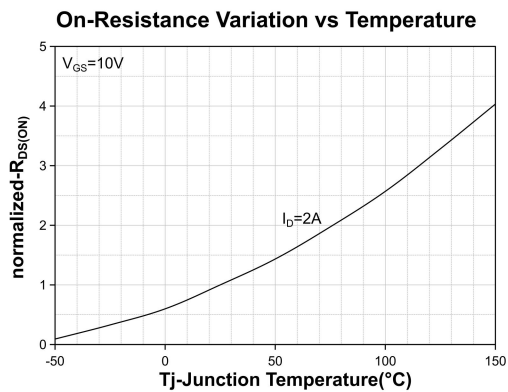
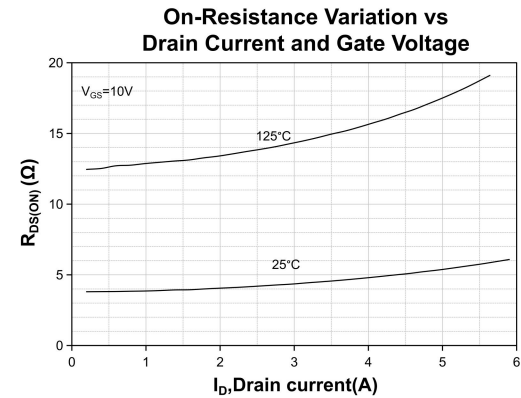
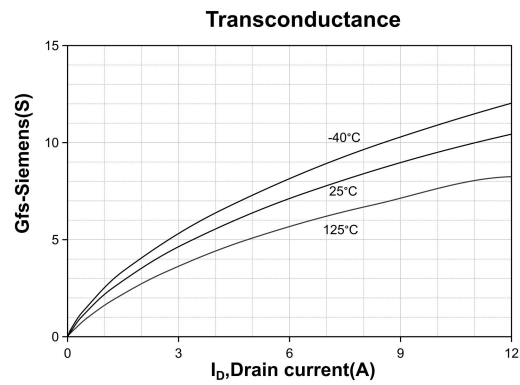
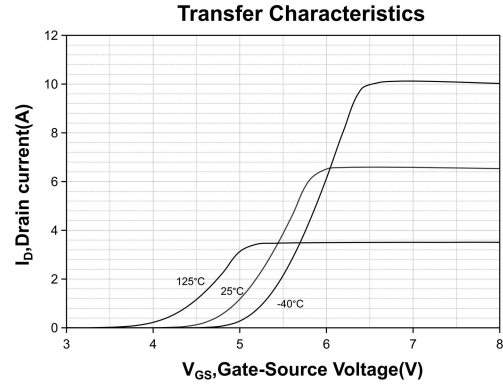
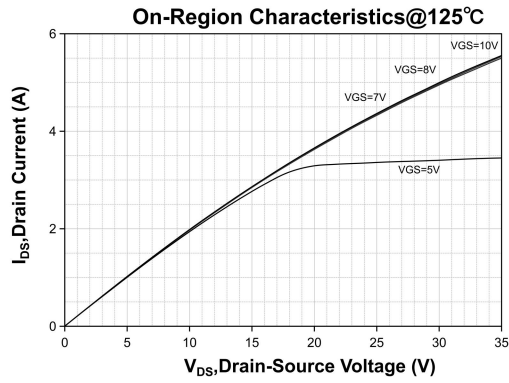
Parameter	Symbol	Value			Unit
		TO-247	TO-3PH	TO-263	
Thermal resistance junction-case max	R_{thj-c}	0.78	2	0.78	$^\circ\text{C}/\text{W}$
Thermal resistance junction-ambient max	R_{thj-a}	62.5	50	50	

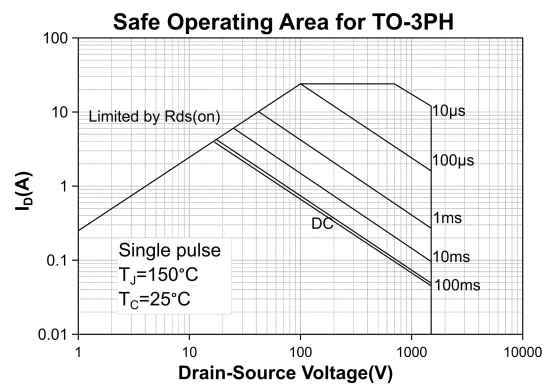
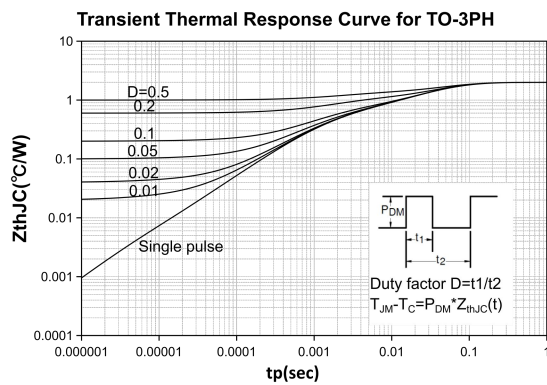
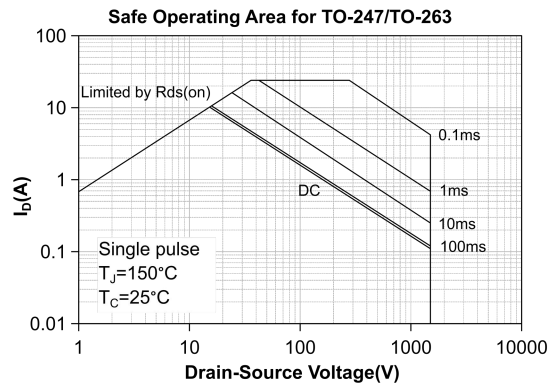
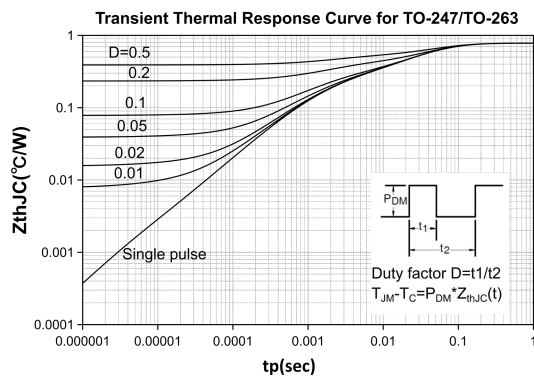
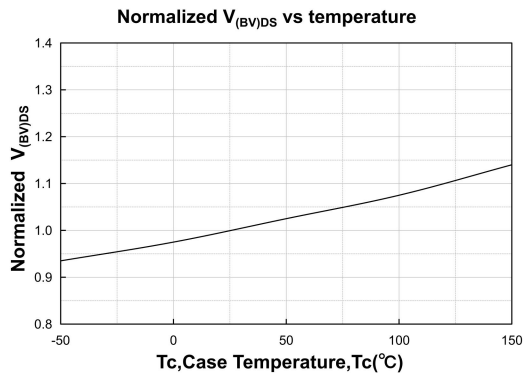
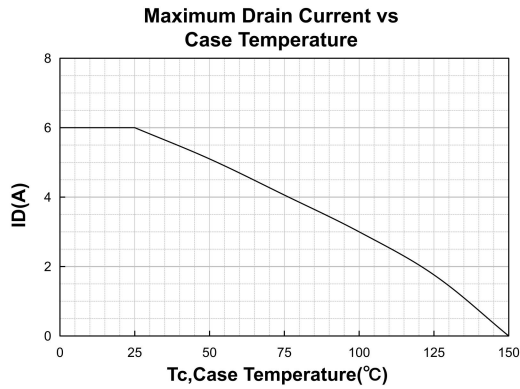
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MS6N150HGB2	TO-3PH
MS6N150HGE0	TO-263

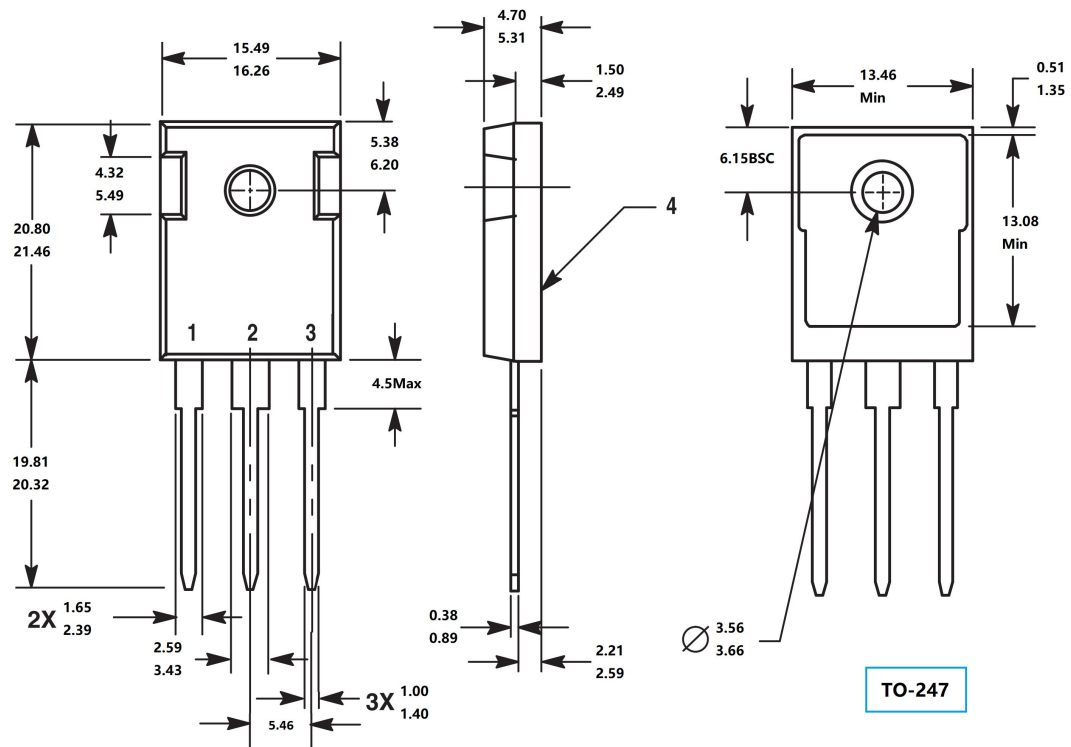
Electrical characteristics(curves)

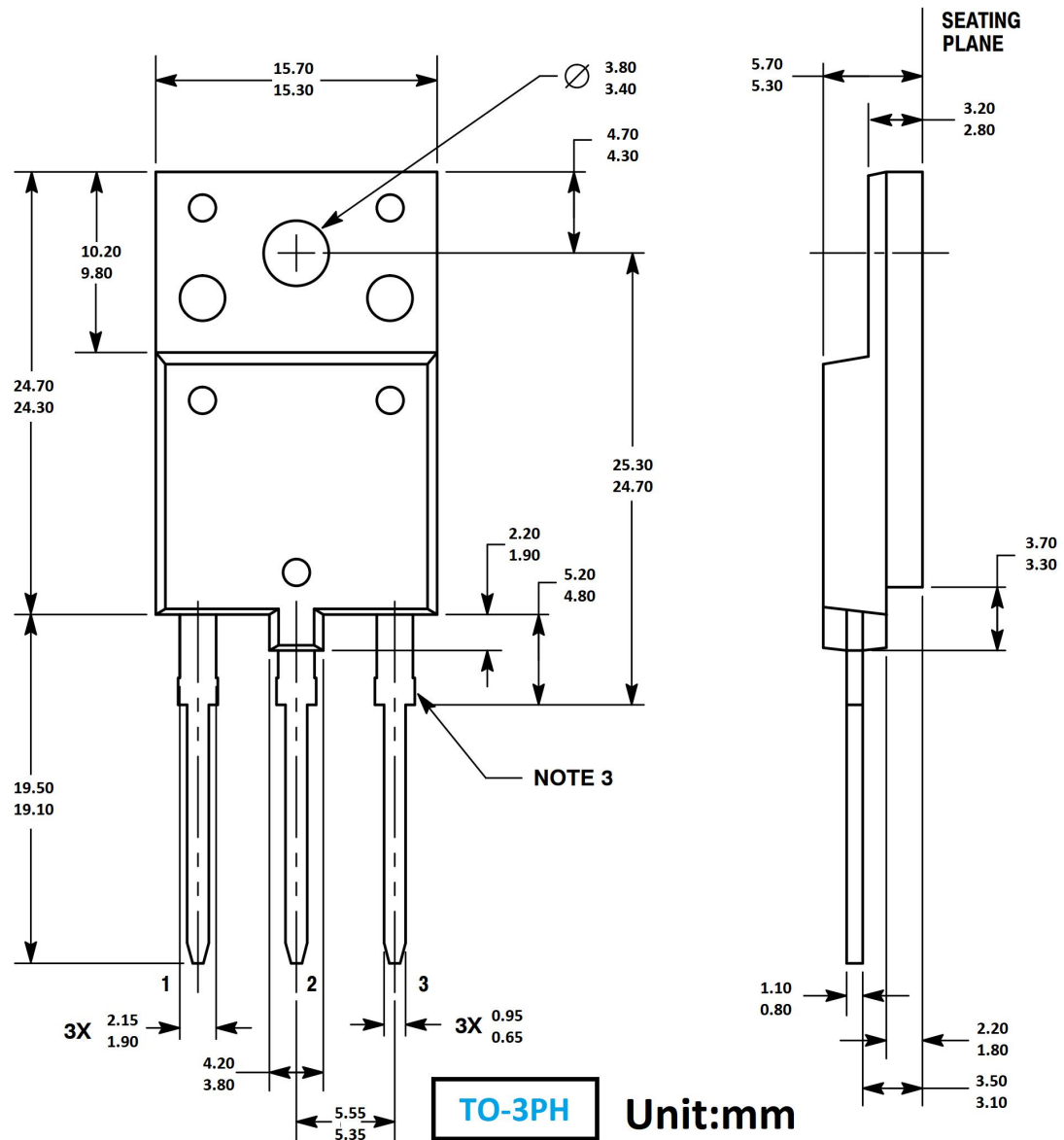


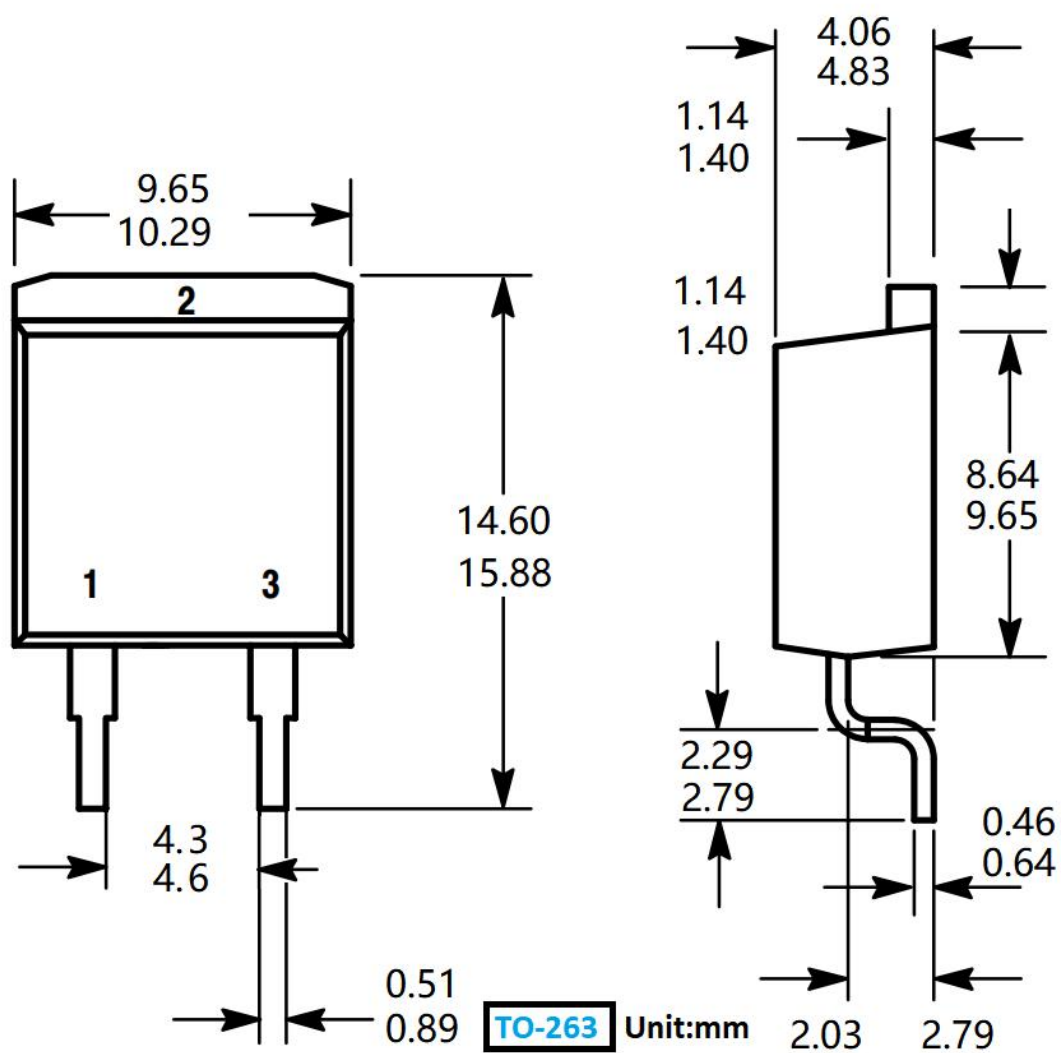




Package outline dimension







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