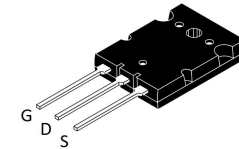
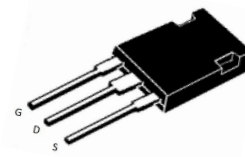


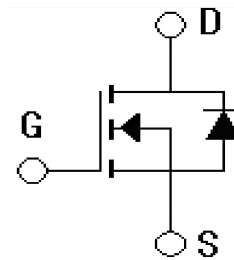
Features

- $V_{DS}=600V, I_D=60A$
 $R_{DS(on)} < 0.18\Omega @ V_{GS}=10V$
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device
- performance and reliable operation



Applications

- ZVS phase shifted and other full bridge
- Half bridge
- PFC and other boost converter
- Buck converter
- Single and two switch forward
- Flyback



Absolute Ratings ($T_c=25^\circ\text{C}$)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DSS}	600	V
Transient Gate-Source Voltage	V_{GSM}	± 30	V
Continuous Gate-Source Voltage	V_{GSS}	± 20	V
Drain Current-continuous	I_D	60	A
Drain Current-pulse (note 1)	I_{DM}	210	A
Single Pulsed Avalanche Energy (note 2)	E_{AS}	1579	mJ
Avalanche Current, Repetitive or Non-Repetitive	I_{AR}	28	A
Maximum Power Dissipation	$P_D, T_c=25^\circ\text{C}$ Derate above 25°C	1041	W
Operating and Storage Temperature Range	T_J, T_{STG}	$-55 \sim +150$	$^\circ\text{C}$
Maximum Lead Temperature for Soldering Purposes	T_L	300	$^\circ\text{C}$

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

Parameter	Symbol	Tests conditions	Min	Typ	Max	Units
Drain-Source Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	600	-	-	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =V _{DSS} , V _{GS} =0V	-	-	25	μA
Gate-Body Leakage Current	I _{GSS}	V _{GS} =±20V, V _{DS} =0V	-	-	±100	nA
On-Characteristics						
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =2.5mA	2.5	4	5	V
Static Drain-Source On-Resistance (3)	R _{DS(ON)}	V _{GS} =10V, I _D =28A	-	0.15	0.18	Ω
Forward Transconductance	g _{fs}	V _{DS} =20V, I _D =28A	-	55	-	S
Dynamic Characteristics						
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1.0MHZ	-	11.3	-	nF
Output capacitance	C _{oss}		-	1040	-	pF
Reverse transfer capacitance	C _{rss}		-	115	-	pF
Switching-Characteristics						
Turn-On delay time	t _{d(on)}	V _{DS} =300V, I _D =60A, R _g =2.2Ω, V _{GS} =15V	-	65	-	ns
Turn-On rise time	t _r		-	75	-	ns
Turn-Off delay time	t _{d(Off)}		-	190	-	ns
Turn-Off rise time	t _f		-	60	-	ns
Total Gate Charge	Q _g	V _{DS} =300V, I _D =60A, V _{GS} =0-10V	-	280	-	nC
Gate-Source charge	Q _{gs}		-	60	-	nC
Gate-Drain charge	Q _{gd}		-	120	-	nC
Drain-Source Diode Characteristics						
Drain-Source Diode Forward Voltage	V _{SD}	V _{GS} =0V, I _S =28A	-	-	1.0	V
Diode Forward Current	I _S	T _C =25℃	-	-	60	A
Reverse recovery time	T _{rr}	I _S =6A, dI _F /dt=100A/μs V _R =100V, V _{GS} =0V (note 3)	-	250	290	ns
Reverse recovery charge	Q _{rr}		-	1.41	-	μC

Thermal Characteristic

Parameter	Symbol	Value	Unit
Thermal Resistance, junction to Case	$R_{th(j-C)}$	0.12	$^{\circ}\text{C}/\text{W}$
Case to Sink Thermal Resistance, Flat, Greased Surface	$R_{th(C-S)}$	0.11	

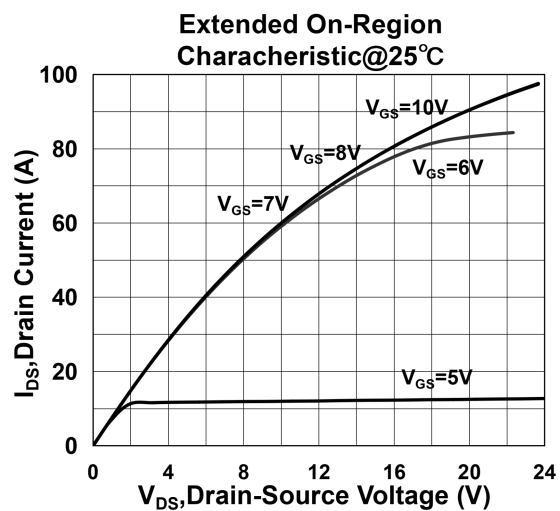
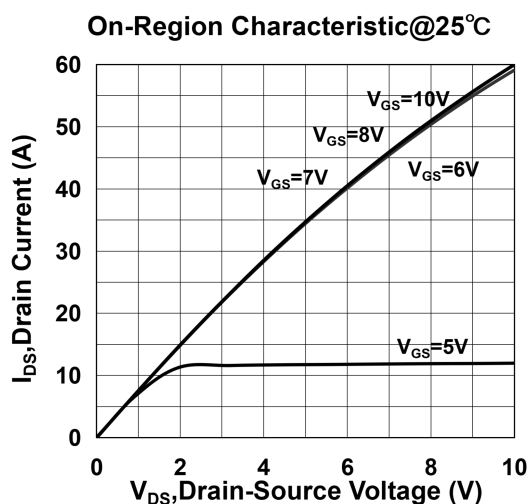
Order Message

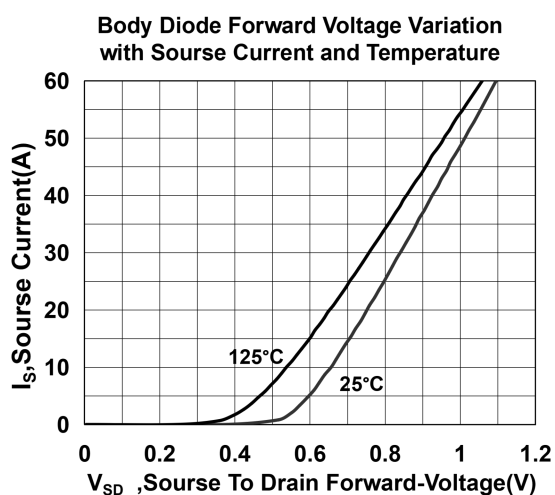
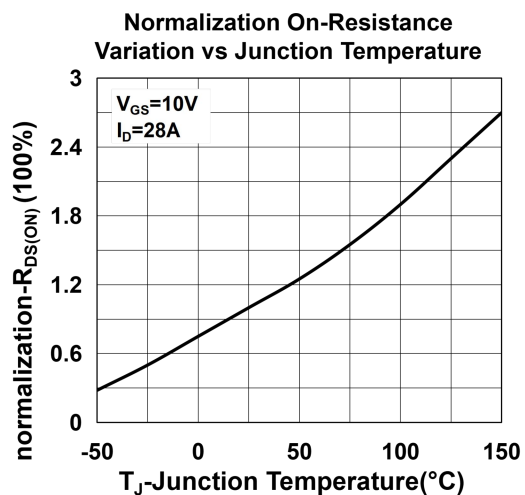
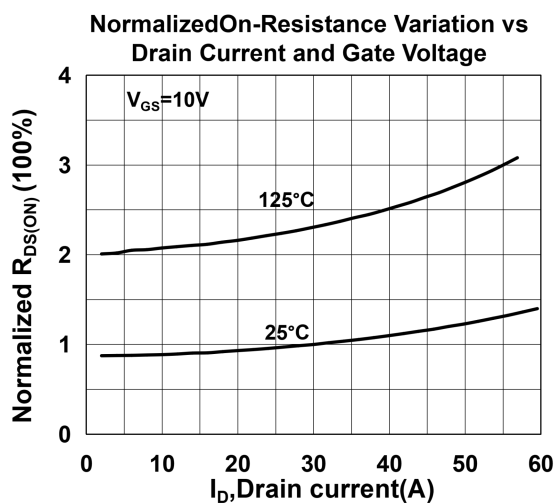
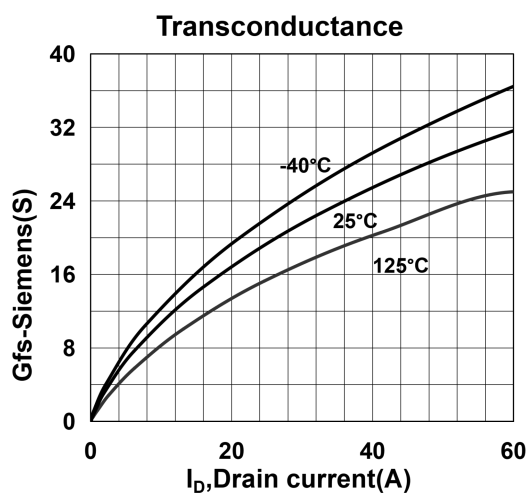
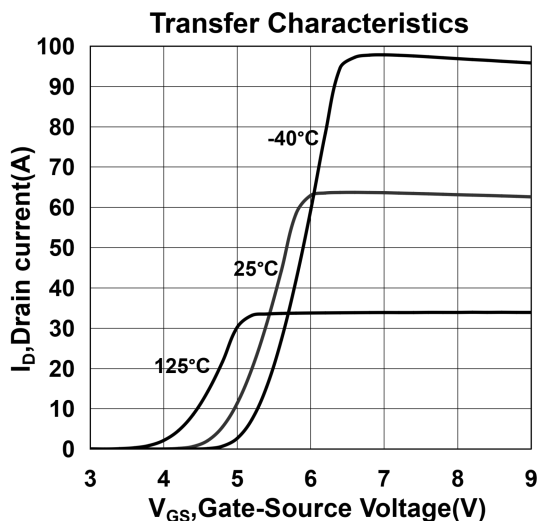
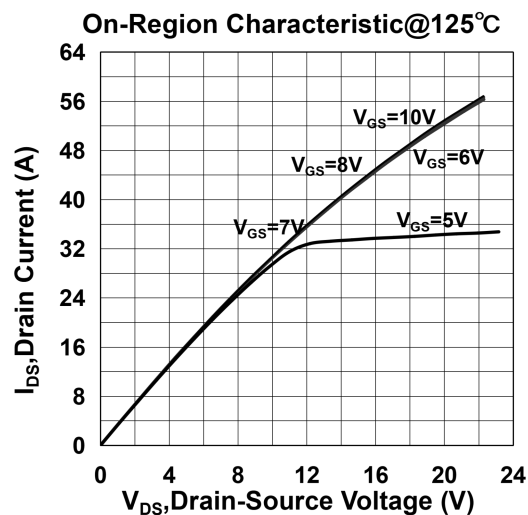
Marking	Package
MS60N60HGB3	TO-264
MS60N60HGC1	TO-247plus

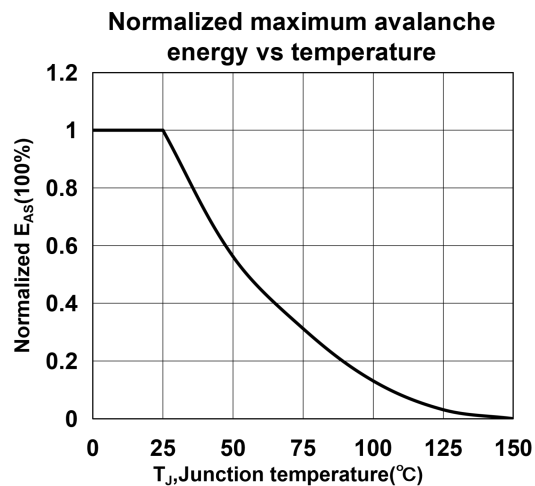
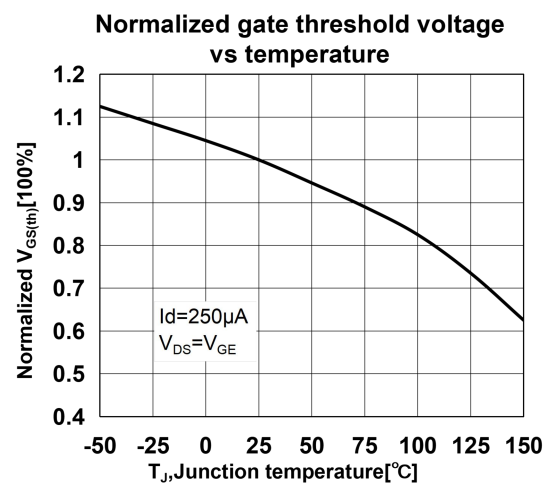
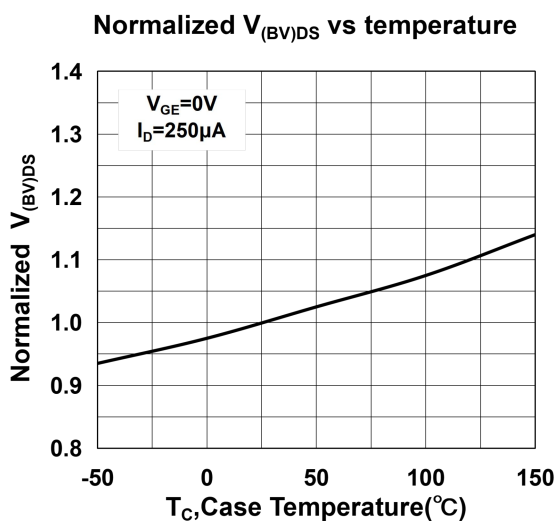
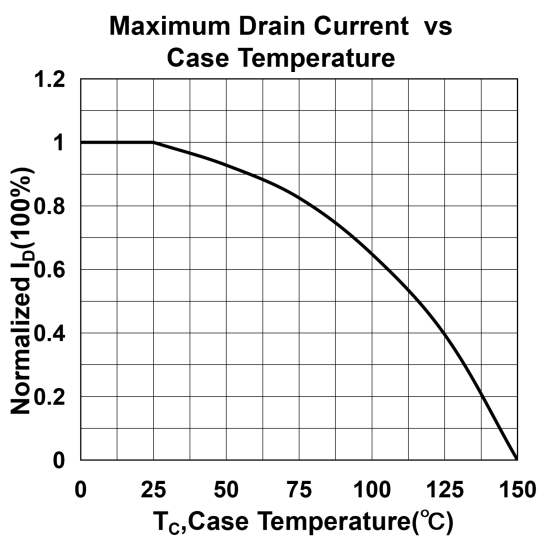
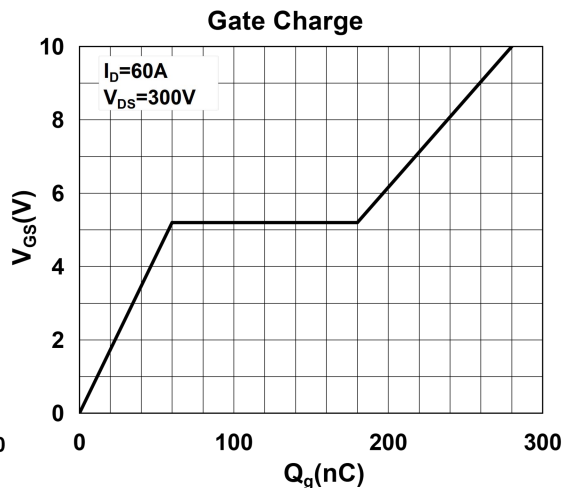
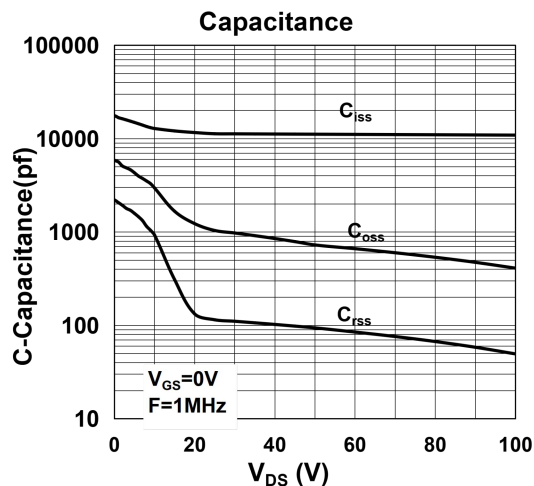
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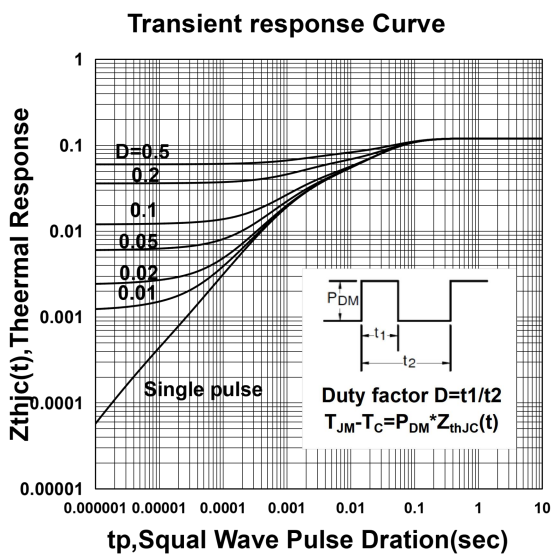
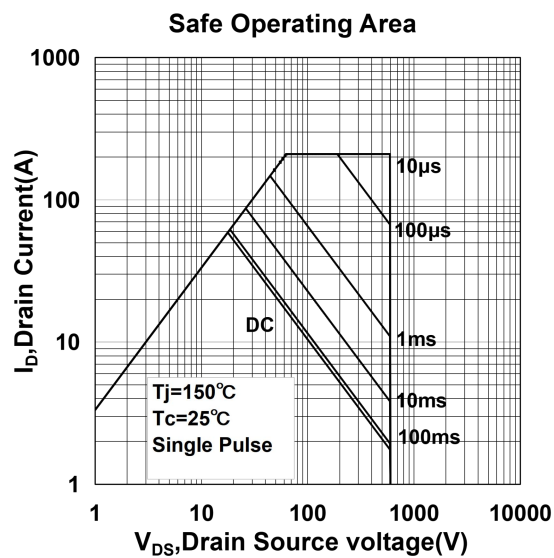
1. Repetitive Rating: Pulse width and case temperature limited by maximum junction temperature.
2. Starting at $T_J = 25^{\circ}\text{C}$, $L = 4.03\text{mH}$, $R_G = 25\Omega$, $I_{AS} = 28\text{A}$.
3. Pulse test: Pulse Width $< 380\mu\text{s}$, duty cycle $< 2\%$
4. R_G is external gate resistance, not including internal gate resistance or gate driver impedance.

Electrical Characteristics

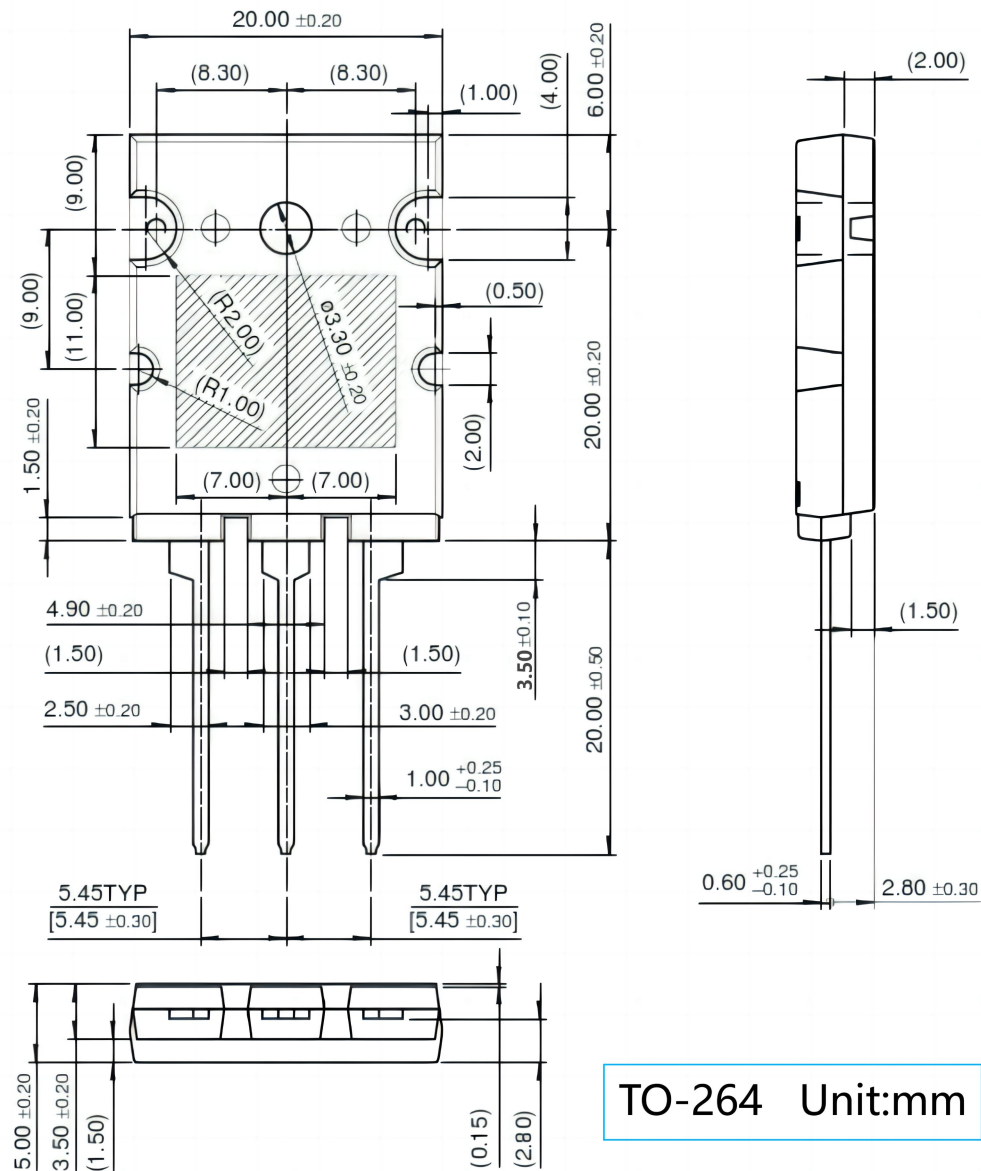




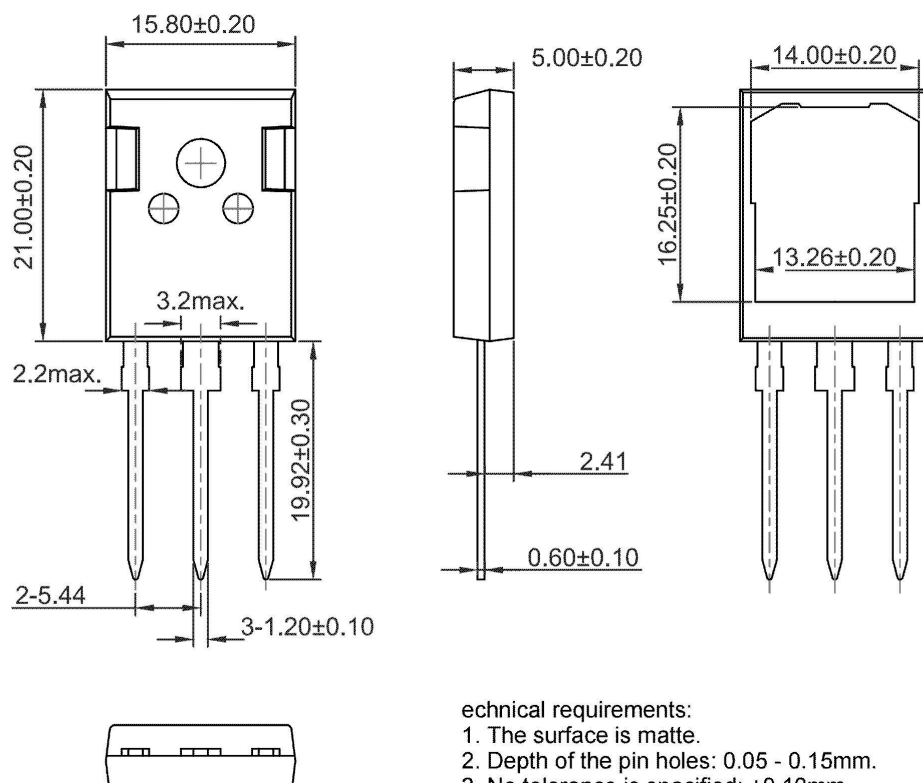




Package Mechanical DATA



TO-264 Unit:mm



Technical requirements:

1. The surface is matte.
2. Depth of the pin holes: 0.05 - 0.15mm.
3. No tolerance is specified: $\pm 0.10 \text{ mm}$.