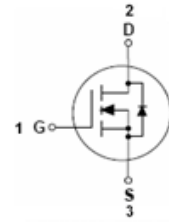


Features

- Low reverse transfer Capacitance.
- Fast switching capability.
- Avalanche energy specified.
- Improved dv/dt capability, high ruggedness.

HF

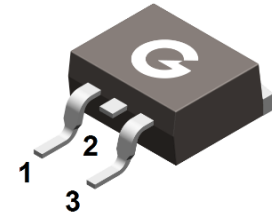


Typical Applications

- Power switch circuit of adaptor and charger.

Mechanical Data

- Case: TO-263
- Molding Compound, UL Flammability Classification Rating 94V-0.
- Terminals: Matte Tin Plated Leads, Solderable Per MIL-STD-202, Method 208.



TO-263

Ordering Information

Part Number	Package	Shipping	Marking Code
BL13N50B	TO-263	50 pcs / Tube or 800 pcs / Tape & Reel	13N50B

Maximum Ratings (@T_A=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
V _{DSS}	Drain-Source Voltage	500	V
V _{GSS}	Gate -Source Voltage	±30	V
I _D	Continuous Drain Current	13	A
I _{DM}	Pulsed Drain Current	52	A
P _D	Power Dissipation	106	W
R _{θJC}	Junction-to-Case	4	°C/W
T _J	Junction Temperature	-55 to +150	°C
T _{STG}	Storage Temperature Range	-55 to +150	°C

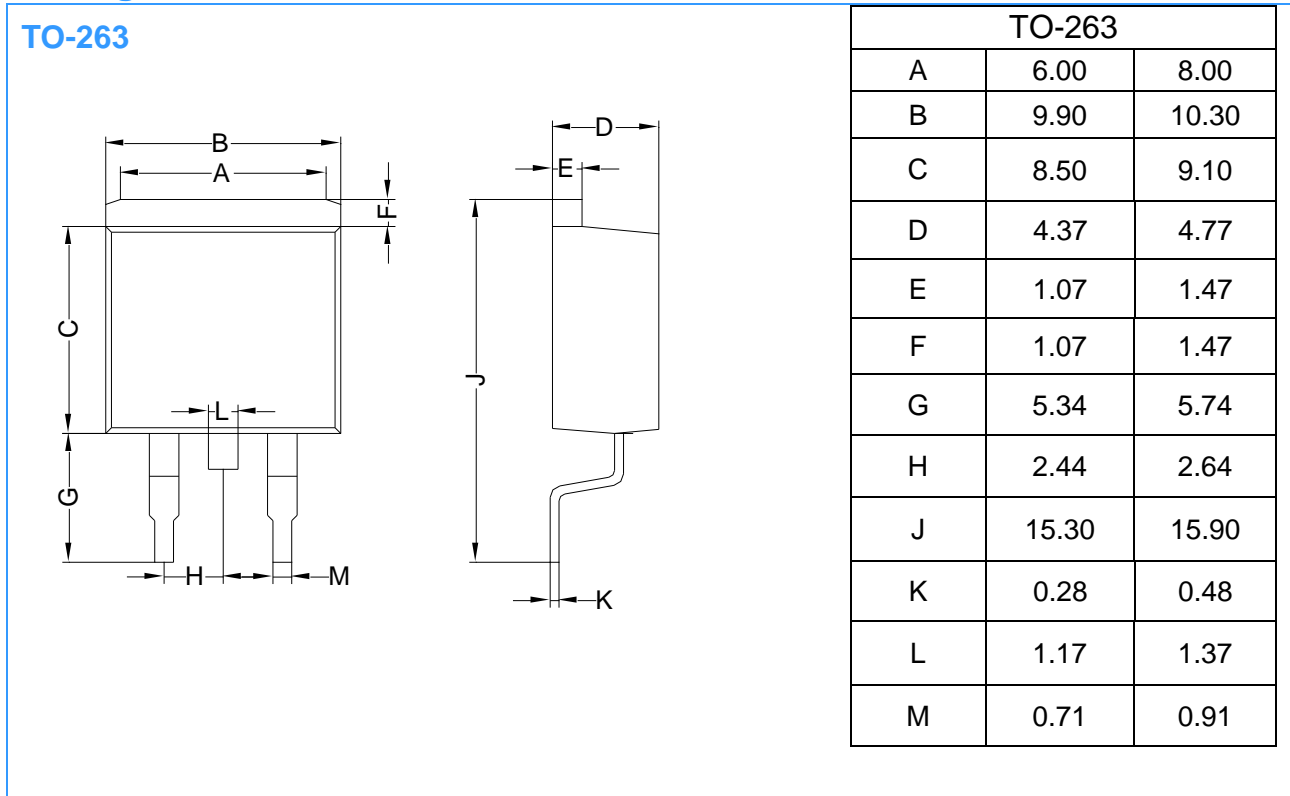
Electrical Characteristics (@ $T_A=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter	Test conditions	MIN	TYP	MAX	UNIT
OFF Characteristics						
V_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	500	-	-	V
I_{DSS}	Drain to Source Leakage Current	$V_{DS}=500V, V_{GS}=0V$	-	-	1	μA
I_{GSS}	Gate-body Leakage	$V_{GS}=\pm 30V, V_{DS}=0V$	-	-	± 100	nA
ON Characteristics (NOTE2)						
$R_{DS(ON)}$	Static Drain-Source On-resistance	$V_{GS}=10V, I_D=6.5A$	-	-	0.4	Ω
$V_{GS(TH)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	2	-	4	V
Dynamic Characteristics (NOTE3)						
C_{iss}	Input Capacitance	$V_{GS}=0V$	-	2140	-	pF
C_{oss}	Output Capacitance	$V_{DS}=25V$	-	214	-	
C_{rss}	Reverse Transfer Capacitance	$f=1.0\text{MHz}$	-	27.5	-	
Switching Characteristics (NOTE3)						
$t_{d(on)}$	Turn-on Delay Time	$V_{DD}=2V, I_D=13A$	-	8	-	nS
t_r	Turn-on Rise Time		-	54	-	
$t_{d(off)}$	Turn-Off Delay Time		-	75	-	
t_f	Turn-Off Fall Time		-	47	-	
Q_g	Total Gate Charge	$V_{DS}=400V, I_D=13A$ $V_{GS}=10V$	-	30	-	nC
Q_{gs}	Gate-Source Charge		-	8	-	
Q_{gd}	Gate-Drain Charge		-	12	-	
Source-Drain Diode Characteristics						
V_{SD}	Diode Forward Voltage(NOTE1)	$I_{SD}=13A, V_{GS}=0V$	-	-	1.5	V
I_S	Diode Continuous Forward Current	$T_C=25^{\circ}\text{C}$	-	-	13	A

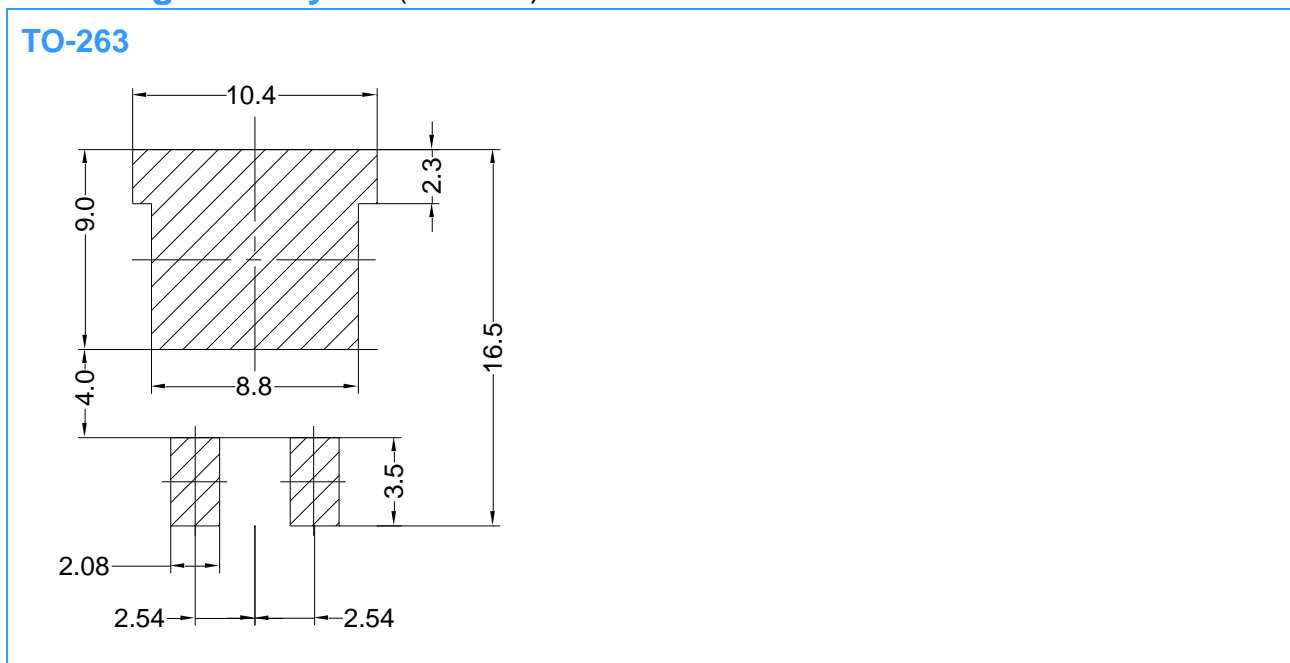
NOTE:

- 1、 Surface Mounted on FR4 Board, $t \leq 10$ sec
- 2、 Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- 3、 Guaranteed by design, not subject to production.

Package Outline Dimensions (unit: mm)



Mounting Pad Layout (unit: mm)



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