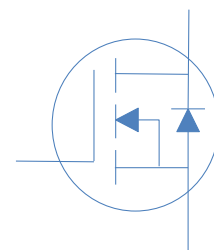


80V N-Ch Power MOSFET

V_{DS}		80	V
$R_{DS(on),typ}$	TO-263	1.7	m
$R_{DS(on),typ}$	TO-220	2	m
I_D (Silicon Limited)		285	A
I_D (Package Limited)		180	A



Part Number	Package	Marking
HGB021N08A	TO-263	GB021N08A
HGP021N08A	TO-220	GP021N08A

Absolute Maximum Ratings at $T_J=25^{\circ}\text{C}$ (unless otherwise specified)

Parameter	Symbol	Conditions	Value	Unit
Continuous Drain Current (Silicon Limited)	I_D	$T_C=25^{\circ}\text{C}$	285	A
		$T_C=100^{\circ}\text{C}$	202	
		$T_C=25^{\circ}\text{C}$	180	
Continuous Drain Current (Package Limited)			180	
Drain to Source Voltage	V_{DS}	-	80	V
Gate to Source Voltage	V_{GS}	-	± 20	V
Pulsed Drain Current	I_{DM}	-	900	A
Avalanche Energy, Single Pulse	E_{AS}	$L=0.1\text{mH}, T_C=25^{\circ}\text{C}$	180	mJ
Power Dissipation	P_D	$T_C=25^{\circ}\text{C}$	333	W
Operating and Storage Temperature	T_J, T_{stg}	-	-55 to 175	$^{\circ}\text{C}$

Absolute Maximum Ratings

Parameter	Symbol	Max	Unit
Thermal Resistance Junction-Ambient	R_{JA}	60	$^{\circ}\text{C/W}$
Thermal Resistance Junction-Case	R_{JC}	0.45	$^{\circ}\text{C/W}$



max

Drain to Source on Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=20A$	TO-220	-	2	2.4	nA
Transconductance					79	-	m
Gate Resistance	R_G						m

Fig 1. Typical Output Characteristics

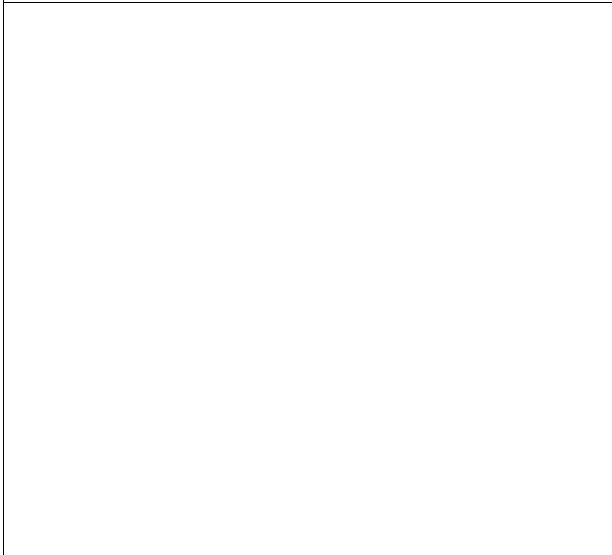


Figure 2. On-Resistance vs. Gate-Source Voltage

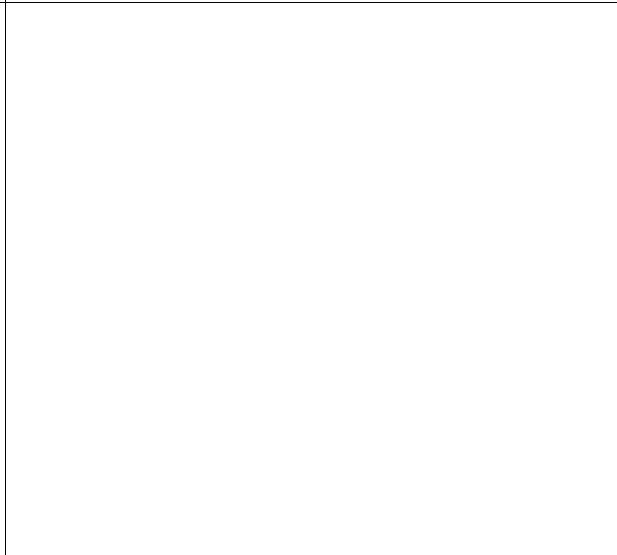


Figure 3. On-Resistance vs. Drain Current and Gate Voltage

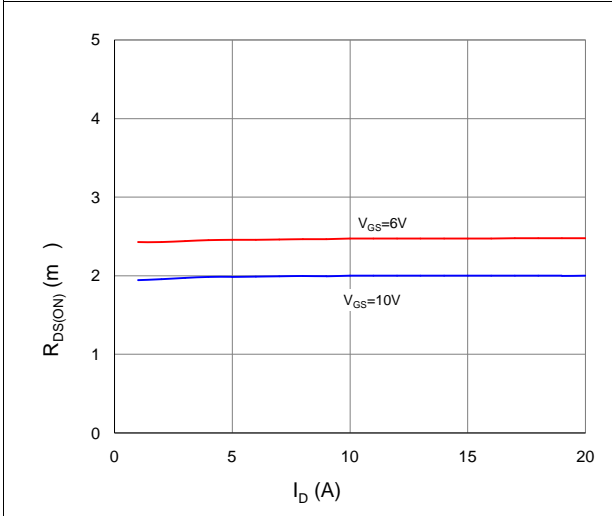


Figure 4. Normalized On-Resistance vs. Junction Temperature



Figure 5. Typical Transfer Characteristics

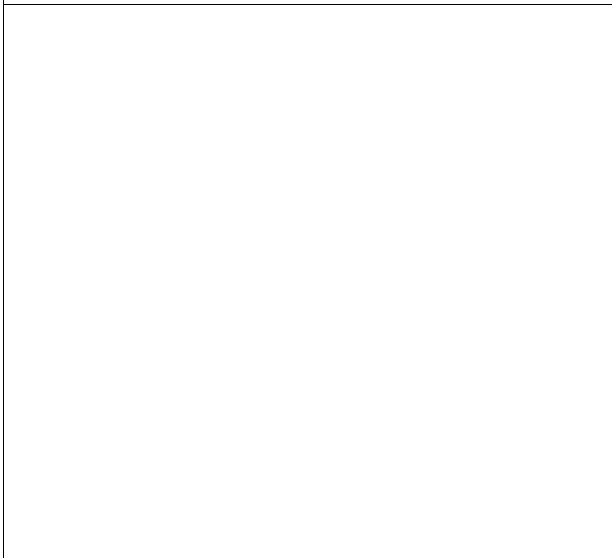


Figure 6. Typical Source-Drain Diode Forward Voltage

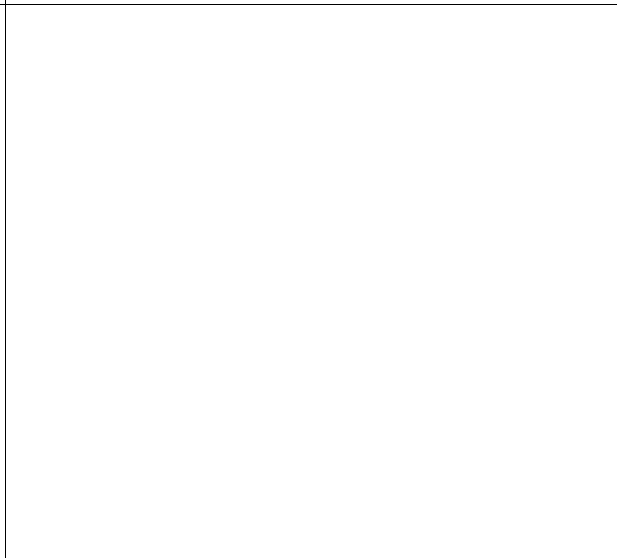


Figure 7. Typical Gate-Charge vs. Gate-to-Source Voltage

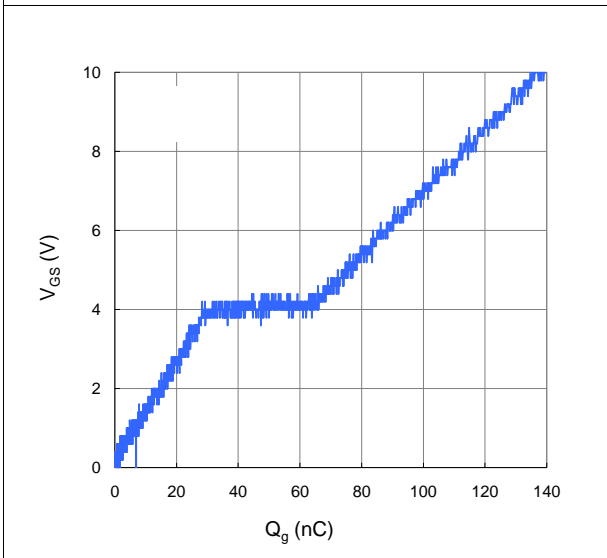


Figure 8. Typical Capacitance vs. Drain-to-Source Voltage

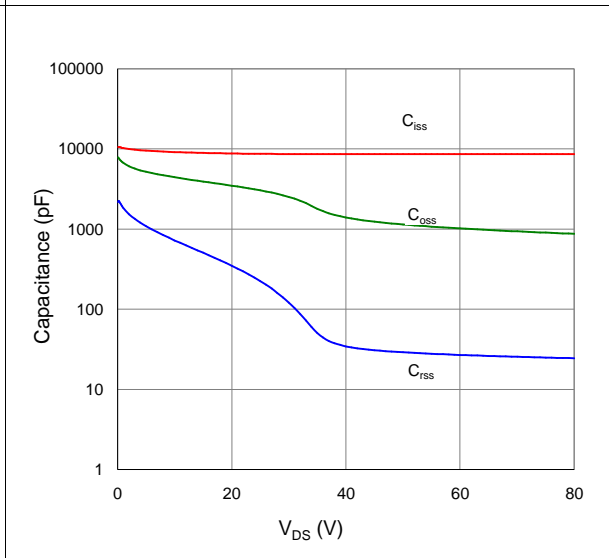


Figure 9. Maximum Safe Operating Area

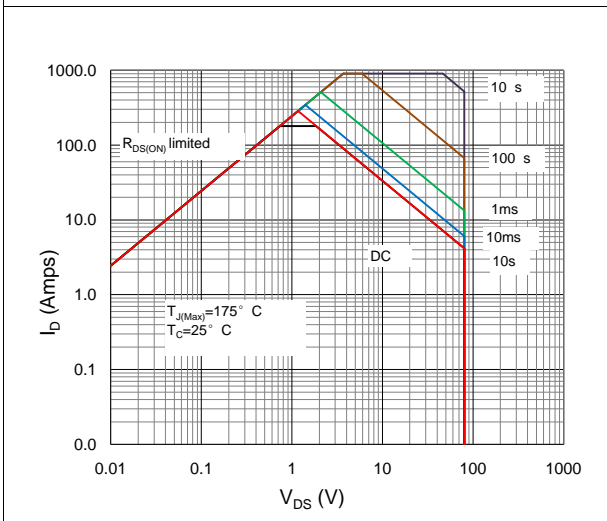


Figure 10. Maximum Drain Current vs. Case Temperature

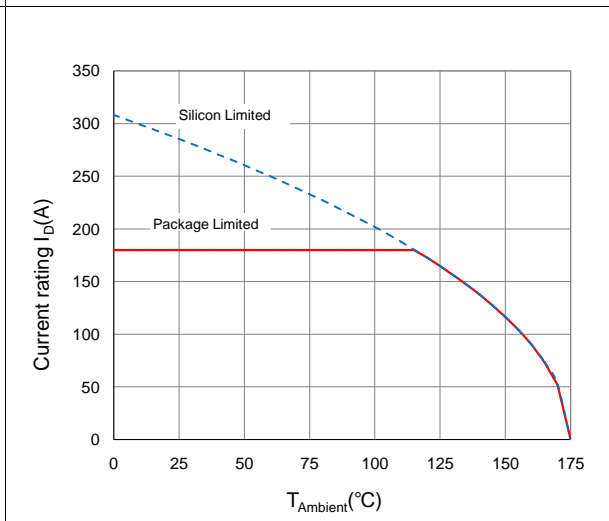
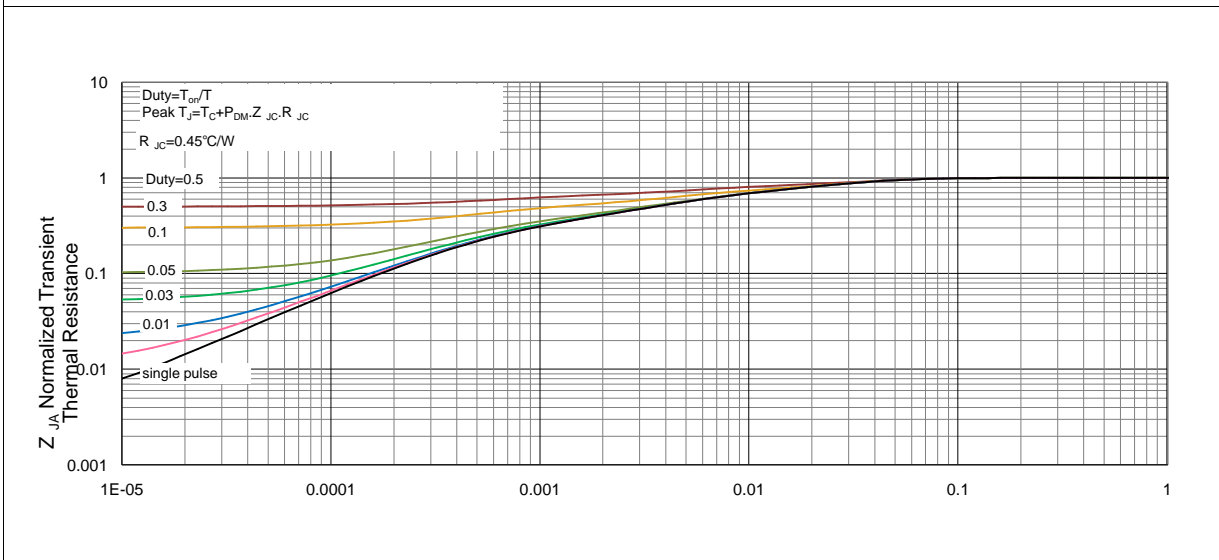
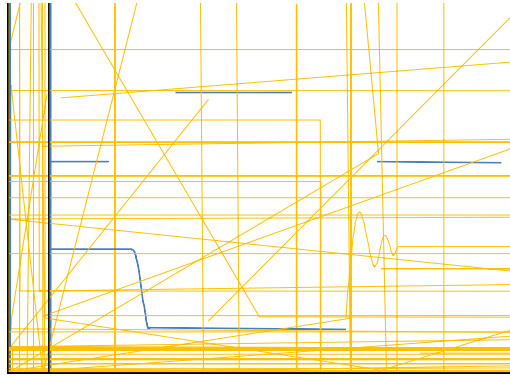


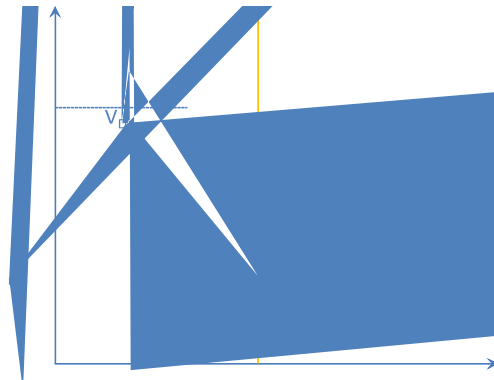
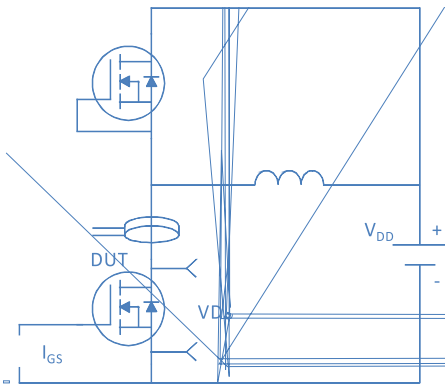
Figure 11. Normalized Maximum Transient Thermal Impedance, Junction-to-Ambient



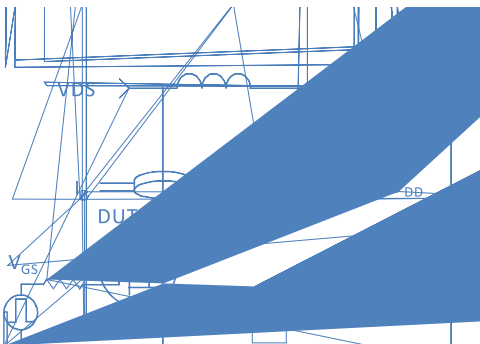
Inductive switching Test



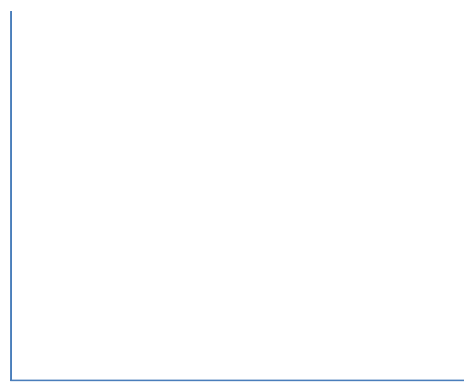
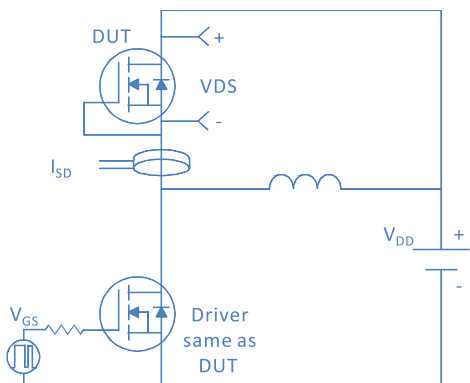
Gate Charge Test



Uclamped Inductive Switching (UIS) Test

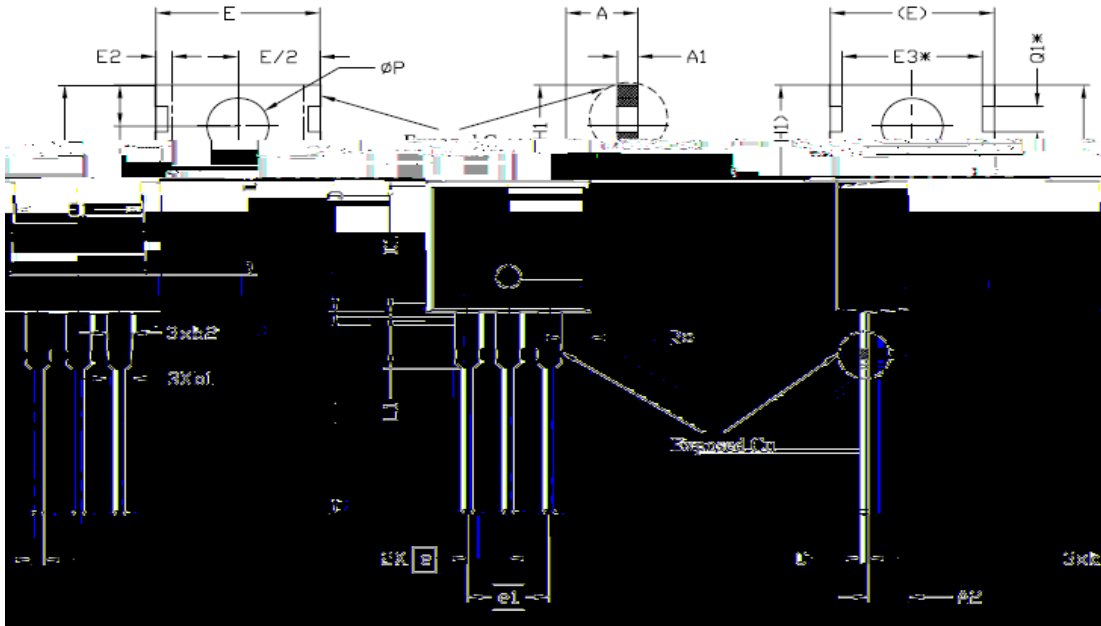


Diode Recovery Test



Package Outline

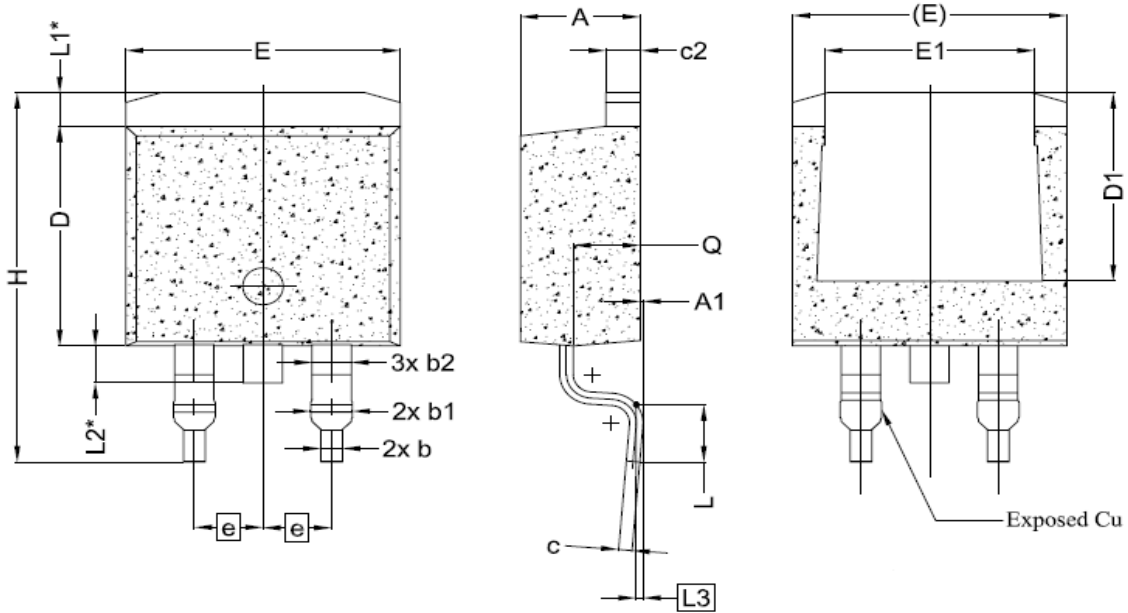
TO-220, 3 leads



SYMBOL	DIMENSIONS			NOTES
	MIN.	NOM.	MAX.	
E	14.20	14.24	14.50	
E2	7.10	7.12	7.50	
E/2	3.55	3.56	3.75	
ØP	0.20	0.20	0.20	
A	1.20	1.20	1.20	
A1	1.20	1.20	1.20	
E3	1.20	1.20	1.20	
Ø3	0.75	0.75	0.75	
Ø4	1.50	1.50	1.50	
Ø5	1.50	1.50	1.50	
Ø6	1.50	1.50	1.50	
Ø7	1.50	1.50	1.50	
Ø8	1.50	1.50	1.50	
Ø9	1.50	1.50	1.50	
Ø10	1.50	1.50	1.50	
Ø11	1.50	1.50	1.50	
Ø12	1.50	1.50	1.50	
Ø13	1.50	1.50	1.50	
Ø14	1.50	1.50	1.50	
Ø15	1.50	1.50	1.50	
Ø16	1.50	1.50	1.50	
Ø17	1.50	1.50	1.50	
Ø18	1.50	1.50	1.50	
Ø19	1.50	1.50	1.50	
Ø20	1.50	1.50	1.50	
Ø21	1.50	1.50	1.50	
Ø22	1.50	1.50	1.50	
Ø23	1.50	1.50	1.50	
Ø24	1.50	1.50	1.50	
Ø25	1.50	1.50	1.50	
Ø26	1.50	1.50	1.50	
Ø27	1.50	1.50	1.50	
Ø28	1.50	1.50	1.50	
Ø29	1.50	1.50	1.50	
Ø30	1.50	1.50	1.50	
Ø31	1.50	1.50	1.50	
Ø32	1.50	1.50	1.50	
Ø33	1.50	1.50	1.50	
Ø34	1.50	1.50	1.50	
Ø35	1.50	1.50	1.50	
Ø36	1.50	1.50	1.50	
Ø37	1.50	1.50	1.50	
Ø38	1.50	1.50	1.50	
Ø39	1.50	1.50	1.50	
Ø40	1.50	1.50	1.50	
Ø41	1.50	1.50	1.50	
Ø42	1.50	1.50	1.50	
Ø43	1.50	1.50	1.50	
Ø44	1.50	1.50	1.50	
Ø45	1.50	1.50	1.50	
Ø46	1.50	1.50	1.50	
Ø47	1.50	1.50	1.50	
Ø48	1.50	1.50	1.50	
Ø49	1.50	1.50	1.50	
Ø50	1.50	1.50	1.50	
Ø51	1.50	1.50	1.50	
Ø52	1.50	1.50	1.50	
Ø53	1.50	1.50	1.50	
Ø54	1.50	1.50	1.50	
Ø55	1.50	1.50	1.50	
Ø56	1.50	1.50	1.50	
Ø57	1.50	1.50	1.50	
Ø58	1.50	1.50	1.50	
Ø59	1.50	1.50	1.50	
Ø60	1.50	1.50	1.50	
Ø61	1.50	1.50	1.50	
Ø62	1.50	1.50	1.50	
Ø63	1.50	1.50	1.50	
Ø64	1.50	1.50	1.50	
Ø65	1.50	1.50	1.50	
Ø66	1.50	1.50	1.50	
Ø67	1.50	1.50	1.50	
Ø68	1.50	1.50	1.50	
Ø69	1.50	1.50	1.50	
Ø70	1.50	1.50	1.50	
Ø71	1.50	1.50	1.50	
Ø72	1.50	1.50	1.50	
Ø73	1.50	1.50	1.50	
Ø74	1.50	1.50	1.50	
Ø75	1.50	1.50	1.50	
Ø76	1.50	1.50	1.50	
Ø77	1.50	1.50	1.50	
Ø78	1.50	1.50	1.50	
Ø79	1.50	1.50	1.50	
Ø80	1.50	1.50	1.50	
Ø81	1.50	1.50	1.50	
Ø82	1.50	1.50	1.50	
Ø83	1.50	1.50	1.50	
Ø84	1.50	1.50	1.50	
Ø85	1.50	1.50	1.50	
Ø86	1.50	1.50	1.50	
Ø87	1.50	1.50	1.50	
Ø88	1.50	1.50	1.50	
Ø89	1.50	1.50	1.50	
Ø90	1.50	1.50	1.50	
Ø91	1.50	1.50	1.50	
Ø92	1.50	1.50	1.50	
Ø93	1.50	1.50	1.50	
Ø94	1.50	1.50	1.50	
Ø95	1.50	1.50	1.50	
Ø96	1.50	1.50	1.50	
Ø97	1.50	1.50	1.50	
Ø98	1.50	1.50	1.50	
Ø99	1.50	1.50	1.50	
Ø100	1.50	1.50	1.50	

Package Outline

TO-263, 3 leads



Symbol	Value	Value	Symbol
A	4.51	4.25	A1
b	1.27	1.27	b1
b1	1.27	1.27	b2
b2	1.27	1.27	c
c	0.25	0.25	c2
c2	0.25	0.25	D
D	1.27	1.27	D1
D1	1.27	1.27	E
E	1.27	1.27	E1
E1	1.27	1.27	H
H	1.27	1.27	L1
L1	1.27	1.27	L2
L2	1.27	1.27	L3
L3	1.27	1.27	Q
Q	1.27	1.27	