

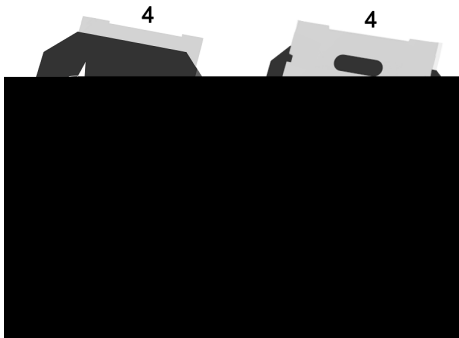
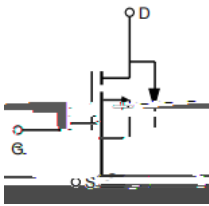
Rev.B Jul.-2024

TO-252 P MOS  
P-CHANNEL MOSFET in a TO-252 Plastic Package.

$R_{DS(on)}$   $C_{rss}$   
Low  $R_{DS(on)}$ , low gate charge, low  $C_{rss}$ , fast switching, HF Product.

DC/DC

Suited for low voltage applications such as automotive, DC/DC Converters, and high efficiency switching for power management in portable and battery operated products.



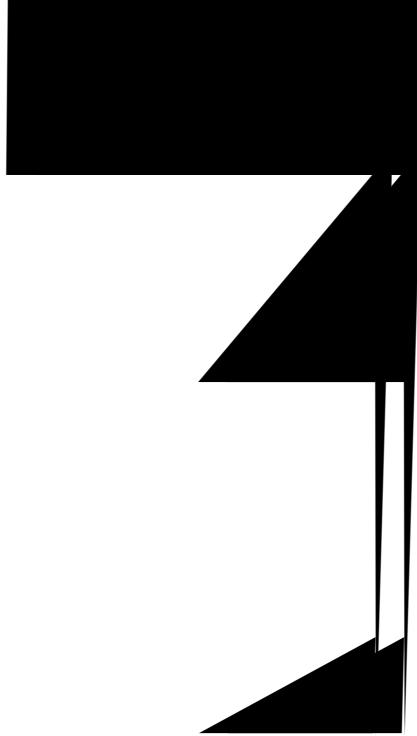
PIN 1 G      PIN 2 D      PIN 3 S      PIN 4 D

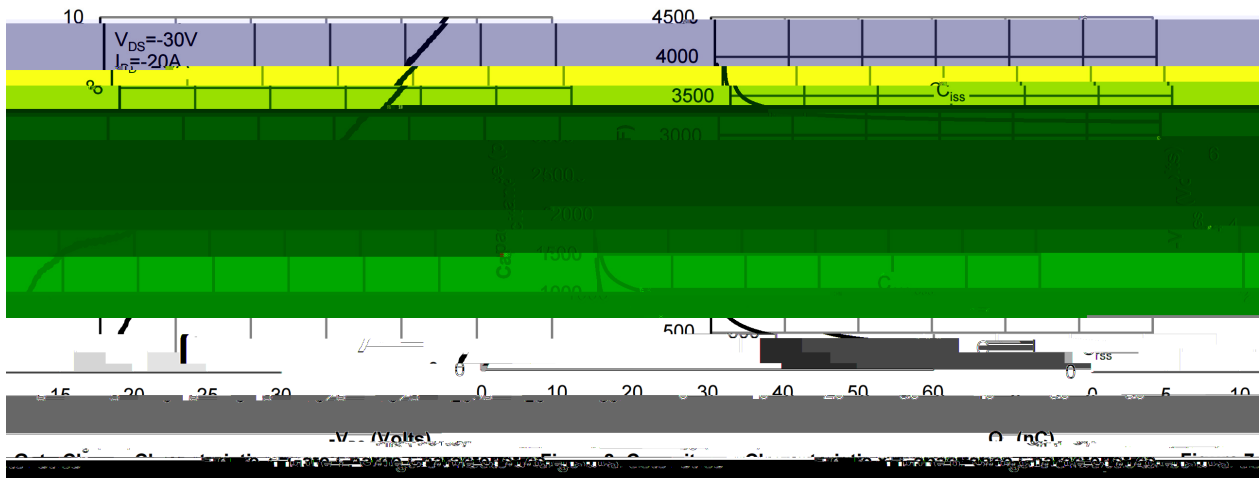
See Marking Instructions.

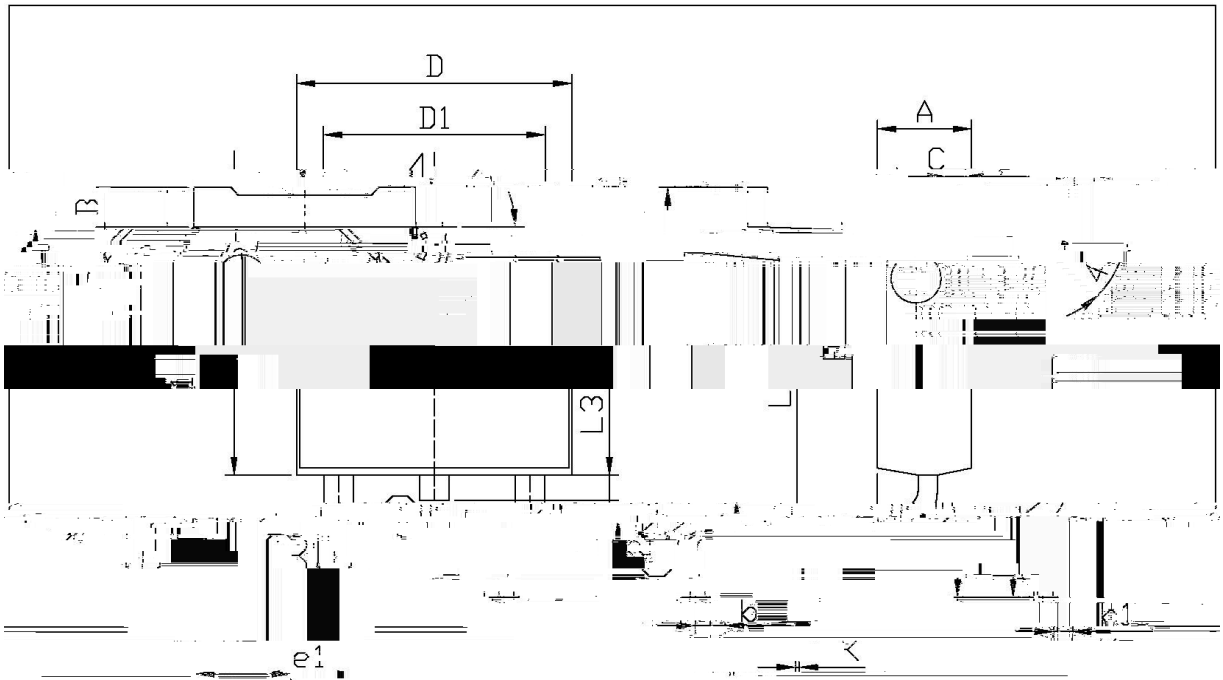
Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	$V_{DS}$	-60	V	
Drain Current	$I_D(T_C=25^\circ\text{C})$	-50	A	
Drain Current - Pulsed	$I_{DM}$	-200	A	
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V	
Power Dissipation	$P_D(T_C=25^\circ\text{C})$	85	W	
Single Pulsed Avalanche Energy	$E_{AS}$	250	mJ	
Avalanche Current(L=0.5mH)	$I_{AS}$	25	A	
Junction and Storage Temperature Range	$T_j, T_{stg}$	-55 to 150		
Thermal resistance, junction - ambient	t = 10s	$R_{JA}$	25	/ W
	Steady-State		50	
Thermal resistance, junction - case	Steady-State	$R_{JC}$	1.5	

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V$ $I_D=-250\mu A$	-60	-68		V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-60V$ $V_{GS}=0V$			-1.0	$\mu A$
		$V_{DS}=-48V$ $T_C=150$			-10	
Gate-Body Leakage Current Forward	$I_{GSS}$	$V_{GS}=\pm 20V$ $V_{DS}=0V$			$\pm 0.1$	$\mu A$
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=-250\mu A$	-1	-1.6	-3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V$ $I_D=-20A$		30	35	m
	$R_{DS(on)}$	$V_{GS}=-4.5V$ $I_D=-10A$		40	45	m
Drain-Source Diode Forward Voltage	$V_{SD}$	$V_{GS}=0V$ $I_S=-1A$			-1.2	V
Gate resistance	$R_g$			10		
Input Capacitance	$C_{iss}$			3200		pF
Output Capacitance	$C_{oss}$	$V_{DS}=-25V$ $V_{GS}=0V$ $f=1.0MHz$		800		pF



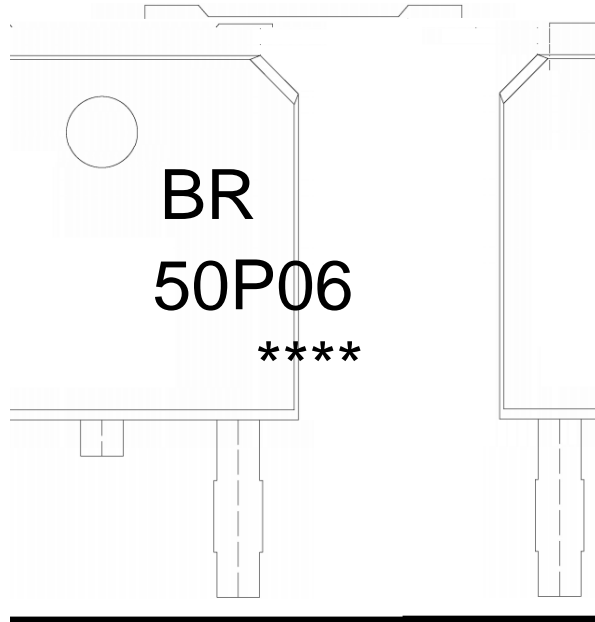






单位: mm

Dimensions		Millimeters		Dimensions		In Millimeters	
Min	Max	Min	Max	Min	Max	Min	Max
2.34		B	0.95	1.25	e1	2.24	
4.73		b	0.70	0.90		4.73	
5.71		h	0.45	0.55	f1	0.95	1.07
6.10		h1	0.45	0.55	h2	0.60	0.70
6.50		h3	0.55	0.65	h4	0.60	0.70
6.90		h5	0.55	0.65	h6	0.60	0.70
7.30		h7	0.55	0.65	h8	0.60	0.70
7.70		h9	0.55	0.65	h10	0.60	0.70
8.10		h11	0.55	0.65	h12	0.60	0.70
8.50		h13	0.55	0.65	h14	0.60	0.70
8.90		h15	0.55	0.65	h16	0.60	0.70
9.30		h17	0.55	0.65	h18	0.60	0.70
9.70		h19	0.55	0.65	h20	0.60	0.70
10.10		h21	0.55	0.65	h22	0.60	0.70
10.50		h23	0.55	0.65	h24	0.60	0.70
10.90		h25	0.55	0.65	h26	0.60	0.70
11.30		h27	0.55	0.65	h28	0.60	0.70
11.70		h29	0.55	0.65	h30	0.60	0.70
12.10		h31	0.55	0.65	h32	0.60	0.70
12.50		h33	0.55	0.65	h34	0.60	0.70
12.90		h35	0.55	0.65	h36	0.60	0.70
13.30		h37	0.55	0.65	h38	0.60	0.70
13.70		h39	0.55	0.65	h40	0.60	0.70
14.10		h41	0.55	0.65	h42	0.60	0.70
14.50		h43	0.55	0.65	h44	0.60	0.70
14.90		h45	0.55	0.65	h46	0.60	0.70
15.30		h47	0.55	0.65	h48	0.60	0.70
15.70		h49	0.55	0.65	h50	0.60	0.70
16.10		h51	0.55	0.65	h52	0.60	0.70
16.50		h53	0.55	0.65	h54	0.60	0.70
16.90		h55	0.55	0.65	h56	0.60	0.70
17.30		h57	0.55	0.65	h58	0.60	0.70
17.70		h59	0.55	0.65	h60	0.60	0.70
18.10		h61	0.55	0.65	h62	0.60	0.70
18.50		h63	0.55	0.65	h64	0.60	0.70
18.90		h65	0.55	0.65	h66	0.60	0.70
19.30		h67	0.55	0.65	h68	0.60	0.70
19.70		h69	0.55	0.65	h70	0.60	0.70
20.10		h71	0.55	0.65	h72	0.60	0.70
20.50		h73	0.55	0.65	h74	0.60	0.70
20.90		h75	0.55	0.65	h76	0.60	0.70
21.30		h77	0.55	0.65	h78	0.60	0.70
21.70		h79	0.55	0.65	h80	0.60	0.70
22.10		h81	0.55	0.65	h82	0.60	0.70
22.50		h83	0.55	0.65	h84	0.60	0.70
22.90		h85	0.55	0.65	h86	0.60	0.70
23.30		h87	0.55	0.65	h88	0.60	0.70
23.70		h89	0.55	0.65	h90	0.60	0.70
24.10		h91	0.55	0.65	h92	0.60	0.70
24.50		h93	0.55	0.65	h94	0.60	0.70
24.90		h95	0.55	0.65	h96	0.60	0.70
25.30		h97	0.55	0.65	h98	0.60	0.70
25.70		h99	0.55	0.65	h100	0.60	0.70
26.10		h101	0.55	0.65	h102	0.60	0.70
26.50		h103	0.55	0.65	h104	0.60	0.70
26.90		h105	0.55	0.65	h106	0.60	0.70
27.30		h107	0.55	0.65	h108	0.60	0.70
27.70		h109	0.55	0.65	h110	0.60	0.70
28.10		h111	0.55	0.65	h112	0.60	0.70
28.50		h113	0.55	0.65	h114	0.60	0.70
28.90		h115	0.55	0.65	h116	0.60	0.70
29.30		h117	0.55	0.65	h118	0.60	0.70
29.70		h119	0.55	0.65	h120	0.60	0.70
30.10		h121	0.55	0.65	h122	0.60	0.70
30.50		h123	0.55	0.65	h124	0.60	0.70
30.90		h125	0.55	0.65	h126	0.60	0.70
31.30		h127	0.55	0.65	h128	0.60	0.70
31.70		h129	0.55	0.65	h130	0.60	0.70
32.10		h131	0.55	0.65	h132	0.60	0.70
32.50		h133	0.55	0.65	h134	0.60	0.70
32.90		h135	0.55	0.65	h136	0.60	0.70
33.30		h137	0.55	0.65	h138	0.60	0.70
33.70		h139	0.55	0.65	h140	0.60	0.70
34.10		h141	0.55	0.65	h142	0.60	0.70
34.50		h143	0.55	0.65	h144	0.60	0.70
34.90		h145	0.55	0.65	h146	0.60	0.70
35.30		h147	0.55	0.65	h148	0.60	0.70
35.70		h149	0.55	0.65	h150	0.60	0.70
36.10		h151	0.55	0.65	h152	0.60	0.70
36.50		h153	0.55	0.65	h154	0.60	0.70
36.90		h155	0.55	0.65	h156	0.60	0.70
37.30		h157	0.55	0.65	h158	0.60	0.70
37.70		h159	0.55	0.65	h160	0.60	0.70
38.10		h161	0.55	0.65	h162	0.60	0.70
38.50		h163	0.55	0.65	h164	0.60	0.70
38.90		h165	0.55	0.65	h166	0.60	0.70
39.30		h167	0.55	0.65	h168	0.60	0.70
39.70		h169	0.55	0.65	h170	0.60	0.70
40.10		h171	0.55	0.65	h172	0.60	0.70
40.50		h173	0.55	0.65	h174	0.60	0.70
40.90		h175	0.55	0.65	h176	0.60	0.70
41.30		h177	0.55	0.65	h178	0.60	0.70
41.70		h179	0.55	0.65	h180	0.60	0.70
42.10		h181	0.55	0.65	h182	0.60	0.70
42.50		h183	0.55	0.65	h184	0.60	0.70
42.90		h185	0.55	0.65	h186	0.60	0.70
43.30		h187	0.55	0.65	h188	0.60	0.70
43.70		h189	0.55	0.65	h190	0.60	0.70
44.10		h191	0.55	0.65	h192	0.60	0.70
44.50		h193	0.55	0.65	h194	0.60	0.70
44.90		h195	0.55	0.65	h196	0.60	0.70
45.30		h197	0.55	0.65	h198	0.60	0.70
45.70		h199	0.55	0.65	h200	0.60	0.70
46.10		h201	0.55	0.65	h202	0.60	0.70
46.50		h203	0.55	0.65	h204	0.60	0.70
46.90		h205	0.55	0.65	h206	0.60	0.70
47.30		h207	0.55	0.65	h208	0.60	0.70
47.70		h209	0.55	0.65	h210	0.60	0.70
48.10		h211	0.55	0.65	h212	0.60	0.70
48.50		h213	0.55	0.65	h214	0.60	0.70
48.90		h215	0.55	0.65	h216	0.60	0.70
49.30		h217	0.55	0.65	h218	0.60	0.70
49.70		h219	0.55	0.65	h220	0.60	0.70
50.10		h221	0.55	0.65	h222	0.60	0.70
50.50		h223	0.55	0.65	h224	0.60	0.70
50.90		h225	0.55	0.65	h226	0.60	0.70
51.30		h227	0.55	0.65	h228	0.60	0.70
51.70		h229	0.55	0.65	h230	0.60	0.70
52.10		h231	0.55	0.65	h232	0.60	0.70
52.50		h233	0.55	0.65	h234	0.60	0.70
52.90		h235	0.55	0.65	h236	0.60	0.70
53.30		h237	0.55	0.65	h238	0.60	0.70
53.70		h239	0.55	0.65	h240	0.60	0.70
54.10		h241	0.55	0.65	h242	0.60	0.70
54.50		h243	0.55	0.65	h244	0.60	0.70
54.90		h245	0.55	0.65	h246	0.60	0.70
55.30		h247	0.55	0.65	h248	0.60	0.70
55.70		h249	0.55	0.65	h250	0.60	0.70
56.10		h251	0.55	0.65	h252	0.60	0.70
56.50		h253	0.55	0.65	h254	0.60	0.70
56.90		h255	0.55	0.65	h256	0.60	0.70
57.30		h257	0.55	0.65	h258	0.60	0.70
57.70		h259	0.55	0.65	h260	0.60	0.70
58.10		h261	0.55	0.65	h262	0.60	0.70
58.50		h263	0.55	0.65	h264	0.60	0.70
58.90		h265	0.55	0.65	h266	0.60	0.70
59.30		h267	0.55	0.65	h268	0.60	0.70
59.70		h269	0.55	0.65	h270	0.60	0.70
60.10		h271	0.55	0.65	h272	0.60	0.70
60.50		h273	0.55	0.65	h274	0.60	0.70
60.90		h275	0.55	0.65	h276	0.60	0.70
61.30		h277	0.55	0.65	h278	0.60	0.70
61.70		h279	0.55	0.65	h280	0.60	0.70
62.10		h281	0.55	0.65	h282	0.60	0.70
62.50		h283	0.55	0.65	h284	0.60	0.70
62.90		h285	0.55	0.65	h286	0.60	0.70



BR

50P06

\*\*\*\*

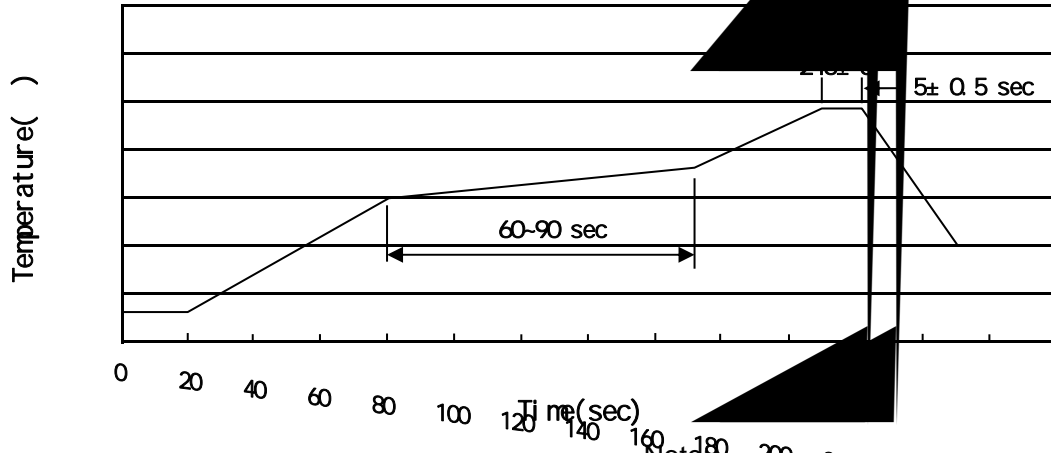
Note:

BR: Company Code

50P06: Product Type Code

\*\*\*\*: Lot No. Code, code change with Lot No.

( Temperature Profile for IR Reflow Soldering(Pb-Free)



- Note:
- 1. Preheating: 150~180 , Time: 60~90sec.
  - 2. Peak Temp.: 245±5 , Duration: 5±0.5sec.
  - 3. Cooling Speed: 2~10 /sec.

260±5                      10±1 sec.                      Temp.:260±5                      Time:10±1 sec

/ REEL

Package Type	Units					Reel	Dimension (unit mm <sup>3</sup> )	
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box		Inner Box	Outer Box
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Tube	Dimension (unit mm <sup>3</sup> )	
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box		Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180