

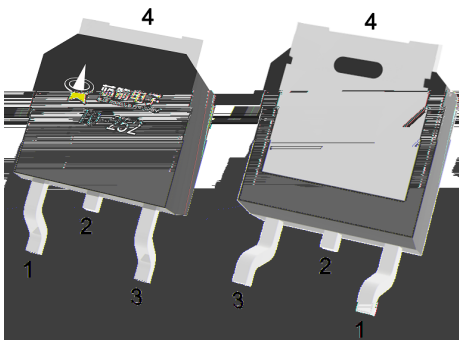
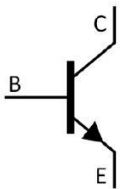
BRMJD41CQ

Rev.A Oct.-2023

Silicon transistor in a TO-252 Plastic Package.

Complement to BRMJD42CQ, Qualified to AEC-Q101 Standards for High Reliability, HF Product.

Medium power linear switching applications, Meet the stringent requirements of automotive applications.



PIN1 Base

PIN 2,4 Collector

PIN 3 Emitter

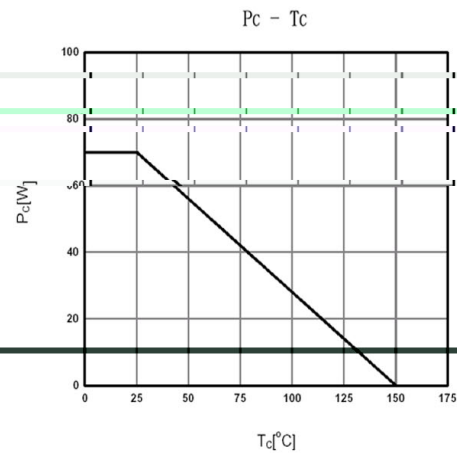
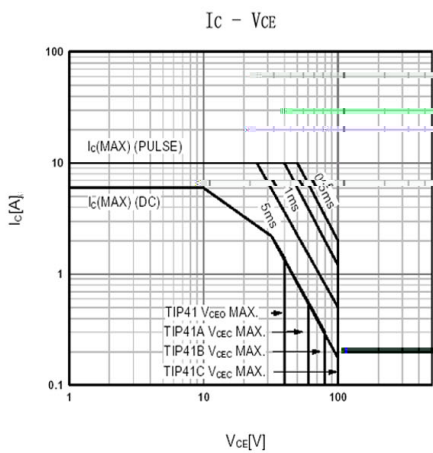
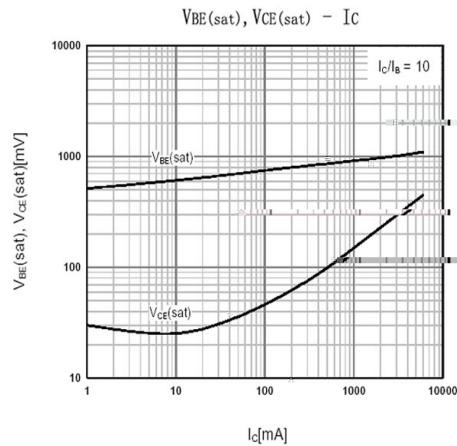
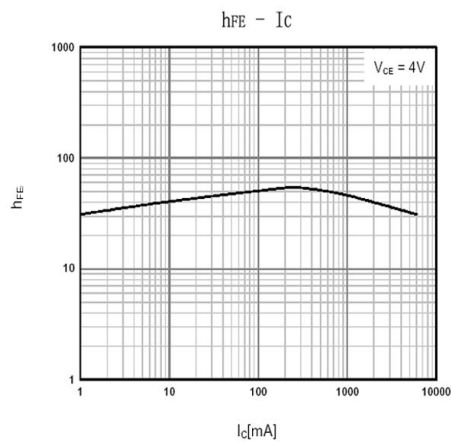
/ Absolute Maximum Ratings(Ta=25)

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	100	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	5.0	V
Collector Current - Continuous	I_C	6.0	A
Base Current - Continuous	I_B	2.0	A
Collector Power Dissipation	P_D	1.75	W
Collector Power Dissipation	$P_D(T_C=25)$	20	W
Junction Temperature	T_j	150	
Storage Temperature Range	T_{stg}	-55 150	

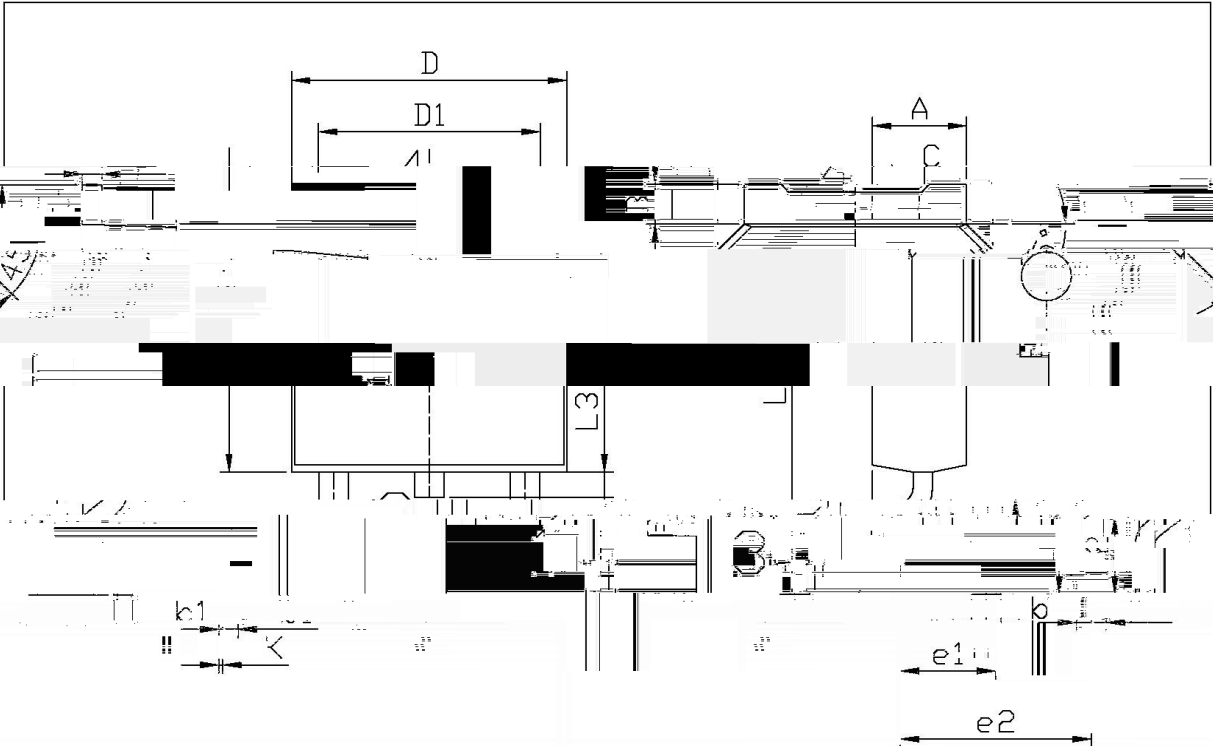
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=30mA$ $I_B=0$	100			V
Collector Cut-Off Current	I_{CEO}	$V_{CE}=60V$ $I_B=0$			50	μA
Collector Cut-Off Current	I_{CES}	$V_{CE}=100V$ $V_{BE}=0$			10	μA
Emitter Cut-Off Current	I_{EBO}	$V_{BE}=5.0V$ $I_C=0$			0.5	mA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=4.0V$ $I_C=3.0A$	15		75	
	$h_{FE(2)}$	$V_{CE}=4.0V$ $I_C=0.3A$	30			
Collector to Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=6.0A$ $I_B=600mA$			1.5	V
Base to Emitter On Voltage	$V_{BE(on)}$	$V_{CE}=6.0V$ $I_C=4.0A$			2.0	V
Current- Gain Bandwidth Product	f_T	$V_{CE}=10V$ $I_C=500mA$	3			MHz

/ Electrical Characteristic Curve



/ Package Dimensions

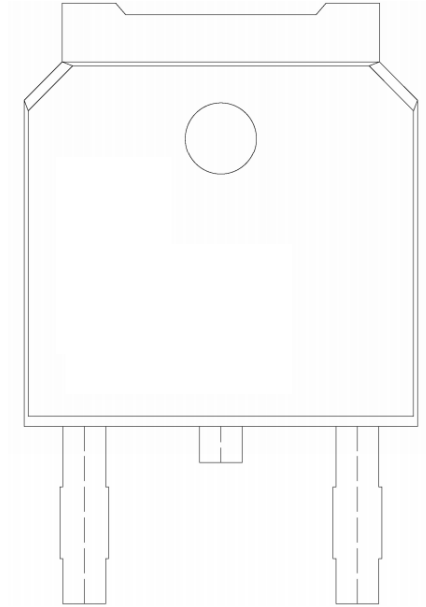


单位: mm

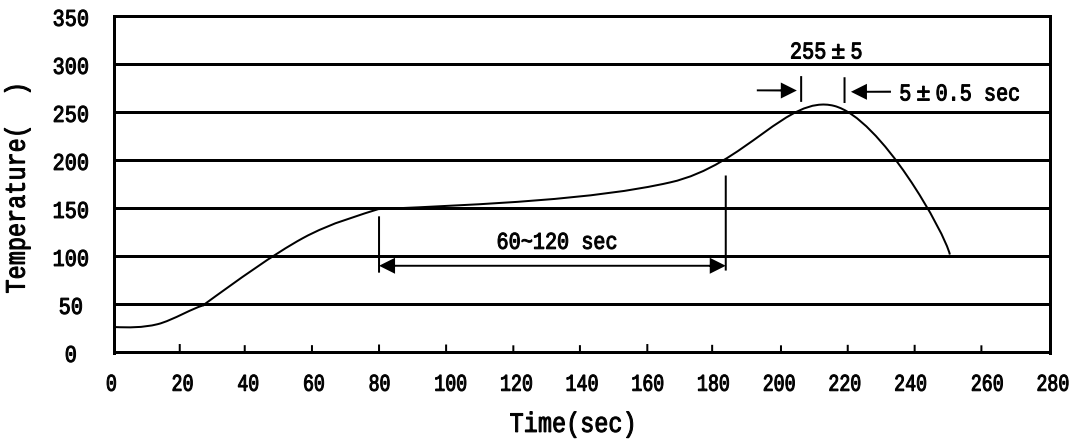
Dimensions In Millimeters			Dimensions In Millimeters		
Symbol	Min	Max	Symbol	Min	Max
A	6.25	6.75	A	2.20	2.40
B	2.34	2.54	B	0.95	1.25
C	2.20	2.50	C	0.70	0.90
D	9.85	10.35	D	1.70	2.00
D1	5.10	5.50	D1	6.45	6.75
L1	0.60	0.90	L2	0.60	0.90
L2	0.60	0.90	L3	0.60	0.90
L3	0.60	0.90	L4	0.60	0.90
L4	0.60	0.90	L5	0.60	0.90
L5	0.60	0.90	L6	0.60	0.90
L6	0.60	0.90	L7	0.60	0.90
L7	0.60	0.90	L8	0.60	0.90
L8	0.60	0.90	L9	0.60	0.90
L9	0.60	0.90	L10	0.60	0.90
L10	0.60	0.90	L11	0.60	0.90
L11	0.60	0.90	L12	0.60	0.90
L12	0.60	0.90	L13	0.60	0.90
L13	0.60	0.90	L14	0.60	0.90
L14	0.60	0.90	L15	0.60	0.90
L15	0.60	0.90	L16	0.60	0.90
L16	0.60	0.90	L17	0.60	0.90
L17	0.60	0.90	L18	0.60	0.90
L18	0.60	0.90	L19	0.60	0.90
L19	0.60	0.90	L20	0.60	0.90
L20	0.60	0.90	L21	0.60	0.90
L21	0.60	0.90	L22	0.60	0.90
L22	0.60	0.90	L23	0.60	0.90
L23	0.60	0.90	L24	0.60	0.90
L24	0.60	0.90	L25	0.60	0.90
L25	0.60	0.90	L26	0.60	0.90
L26	0.60	0.90	L27	0.60	0.90
L27	0.60	0.90	L28	0.60	0.90
L28	0.60	0.90	L29	0.60	0.90
L29	0.60	0.90	L30	0.60	0.90
L30	0.60	0.90	L31	0.60	0.90
L31	0.60	0.90	L32	0.60	0.90
L32	0.60	0.90	L33	0.60	0.90
L33	0.60	0.90	L34	0.60	0.90
L34	0.60	0.90	L35	0.60	0.90
L35	0.60	0.90	L36	0.60	0.90
L36	0.60	0.90	L37	0.60	0.90
L37	0.60	0.90	L38	0.60	0.90
L38	0.60	0.90	L39	0.60	0.90
L39	0.60	0.90	L40	0.60	0.90
L40	0.60	0.90	L41	0.60	0.90
L41	0.60	0.90	L42	0.60	0.90
L42	0.60	0.90	L43	0.60	0.90
L43	0.60	0.90	L44	0.60	0.90
L44	0.60	0.90	L45	0.60	0.90
L45	0.60	0.90	L46	0.60	0.90
L46	0.60	0.90	L47	0.60	0.90
L47	0.60	0.90	L48	0.60	0.90
L48	0.60	0.90	L49	0.60	0.90
L49	0.60	0.90	L50	0.60	0.90
L50	0.60	0.90	L51	0.60	0.90
L51	0.60	0.90	L52	0.60	0.90
L52	0.60	0.90	L53	0.60	0.90
L53	0.60	0.90	L54	0.60	0.90
L54	0.60	0.90	L55	0.60	0.90
L55	0.60	0.90	L56	0.60	0.90
L56	0.60	0.90	L57	0.60	0.90
L57	0.60	0.90	L58	0.60	0.90
L58	0.60	0.90	L59	0.60	0.90
L59	0.60	0.90	L60	0.60	0.90
L60	0.60	0.90	L61	0.60	0.90
L61	0.60	0.90	L62	0.60	0.90
L62	0.60	0.90	L63	0.60	0.90
L63	0.60	0.90	L64	0.60	0.90
L64	0.60	0.90	L65	0.60	0.90
L65	0.60	0.90	L66	0.60	0.90
L66	0.60	0.90	L67	0.60	0.90
L67	0.60	0.90	L68	0.60	0.90
L68	0.60	0.90	L69	0.60	0.90
L69	0.60	0.90	L70	0.60	0.90
L70	0.60	0.90	L71	0.60	0.90
L71	0.60	0.90	L72	0.60	0.90
L72	0.60	0.90	L73	0.60	0.90
L73	0.60	0.90	L74	0.60	0.90
L74	0.60	0.90	L75	0.60	0.90
L75	0.60	0.90	L76	0.60	0.90
L76	0.60	0.90	L77	0.60	0.90
L77	0.60	0.90	L78	0.60	0.90
L78	0.60	0.90	L79	0.60	0.90
L79	0.60	0.90	L80	0.60	0.90
L80	0.60	0.90	L81	0.60	0.90
L81	0.60	0.90	L82	0.60	0.90
L82	0.60	0.90	L83	0.60	0.90
L83	0.60	0.90	L84	0.60	0.90
L84	0.60	0.90	L85	0.60	0.90
L85	0.60	0.90	L86	0.60	0.90
L86	0.60	0.90	L87	0.60	0.90
L87	0.60	0.90	L88	0.60	0.90
L88	0.60	0.90	L89	0.60	0.90
L89	0.60	0.90	L90	0.60	0.90
L90	0.60	0.90	L91	0.60	0.90
L91	0.60	0.90	L92	0.60	0.90
L92	0.60	0.90	L93	0.60	0.90
L93	0.60	0.90	L94	0.60	0.90
L94	0.60	0.90	L95	0.60	0.90
L95	0.60	0.90	L96	0.60	0.90
L96	0.60	0.90	L97	0.60	0.90
L97	0.60	0.90	L98	0.60	0.90
L98	0.60	0.90	L99	0.60	0.90
L99	0.60	0.90	L100	0.60	0.90

-252

T□-



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



Note:

- 1

150 200

60 120sec;

1.Preheating:150~200 , Time:60~120sec.
- 2

255 5

5 0.5sec;

2.Peak Temp.:255 5 , Duration:5 0.5sec.
- 3

2 10 /sec.

3. Cooling Speed: 2~10 /sec.

/ Resistance to Soldering Heat Test Conditions

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

/ Packaging SPEC.

/ REEL

Package Type	Units					Dimension (unit mm ³)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	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					Dimension (unit mm ³)		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	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

/ Notices