



/ Revised record

A	2022.1.13	ALL	AOS-AOD2144		

BRCS016N03DP

Rev.A Jan.-2022



TO-252 塑封封装 N 沟道场效应管。
N-CHANNEL MOSFET in a TO-252

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		$I_D(T_c=25^{\circ}C)$	125	A
Drain Current - Pulsed		I_{DM}	213	A
Gate-Source Voltage		V_{GS}	± 20	V
Avalanche Current		I_{AS}	24	A
Single Pulsed Avalanche Energy(L=0.5mH)		E_{AS}	302.4	mJ
Power Dissipation		$P_D(T_c=25^{\circ}C)$	156	W
Storage Temperature Range		T_{stg}	-55 to 150	$^{\circ}C$
Thermal Resistance-Junction to Ambient	$t \leq 10s$	$R_{\theta JA}$	20	$^{\circ}C/W$
	Steady-State		50	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.8	

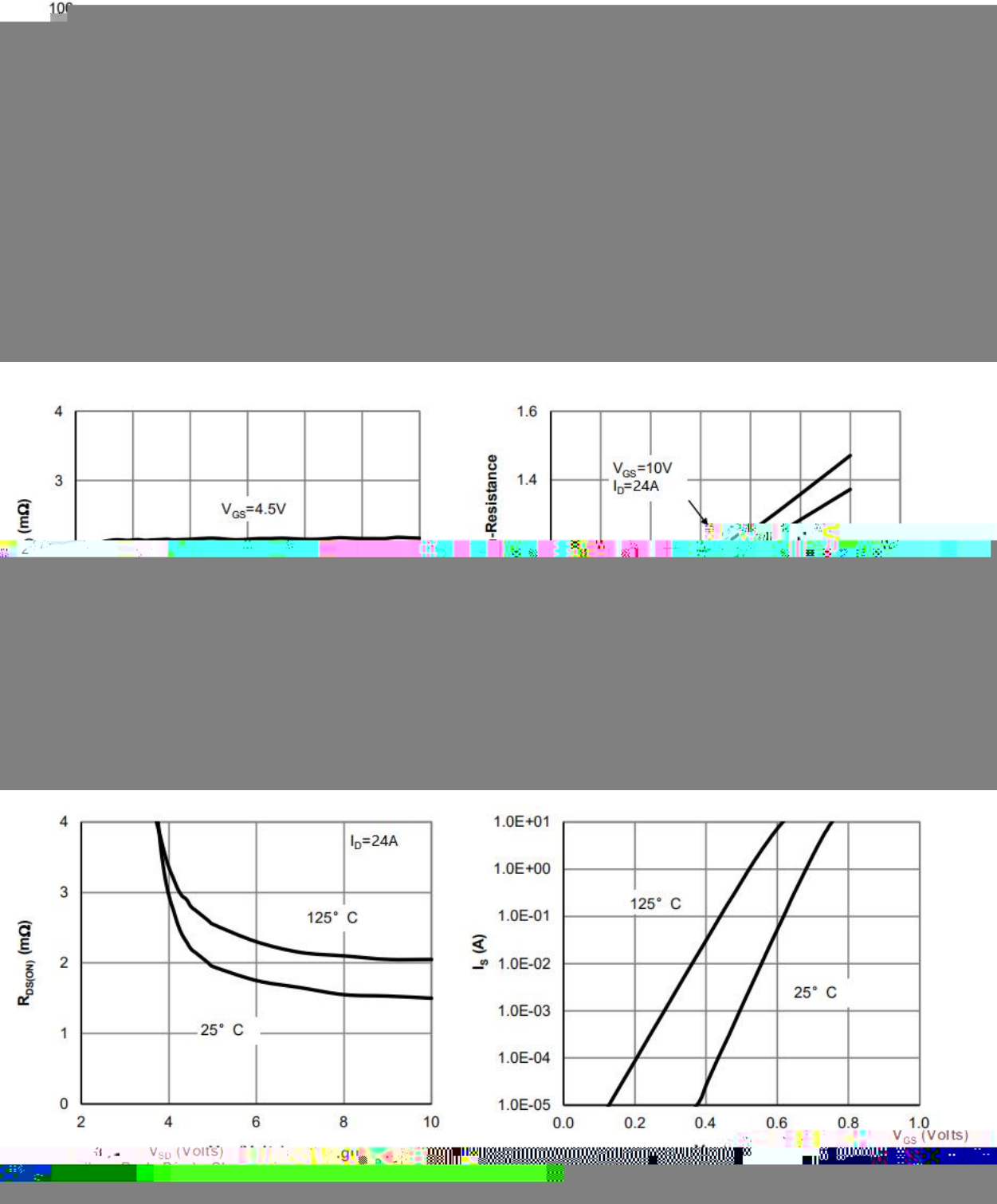
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=250\mu A$	30	35		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=30V$ $V_{GS}=0V$			1.0	μA
		$V_{DS}=24V$ $T_C=150^{\circ}C$			10	
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			± 0.1	μA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0	1.6	2.8	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=20A$		1.6	2.0	m Ω
		$V_{GS}=4.5V$ $I_D=10A$		2.3	3.0	
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=1A$			1.2	V
Gate resistance	R_g	$V_{GS}=0V$ $V_{DS}=0V$, $f=1MHz$		1.8		Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		8500		pF
Output Capacitance	C_{oss}			890		
Reverse Transfer Capacitance	C_{rss}			670		
Total Gate Charge	$Q_{g(10V)}$	$V_{GS}=10V$, $V_{DS}=15V$, $I_D=20A$		60		nC
Total Gate Charge	$Q_{g(4.5V)}$			28		
Gate Source Charge	Q_{gs}			12		
Gate Drain Charge	Q_{gd}			9.5		

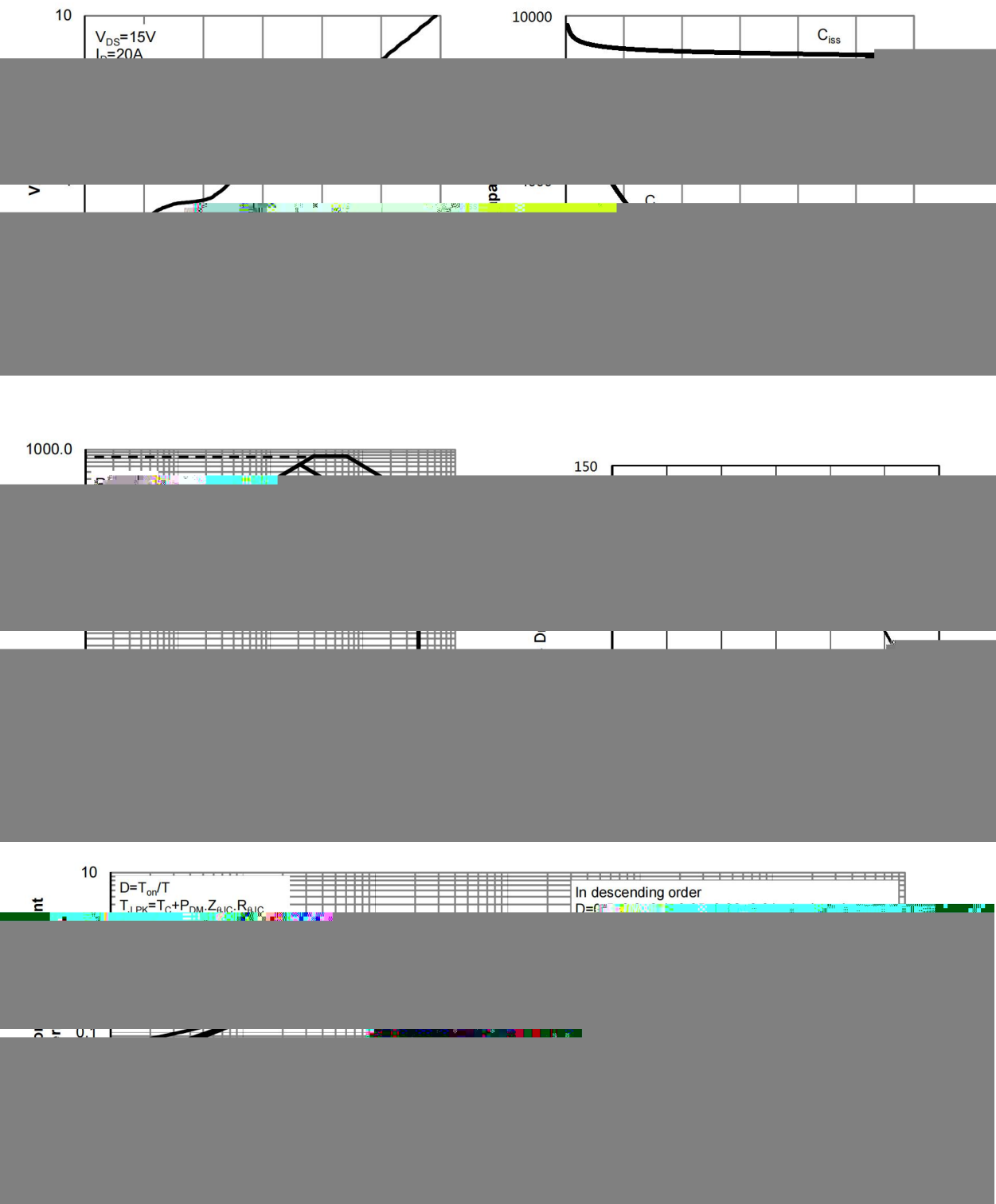
/ Electrical Characteristics(Ta=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=10V$ $V_{DS}=15V$ $R_L=0.75\ \Omega$ $R_{GEN}=3\ \Omega$		12.5		ns
Turn-On Rise Time	t_r			6.0		
Turn-Off Delay Time	$t_{d(off)}$			47		
Turn-Off Fall Time	t_f			10.5		

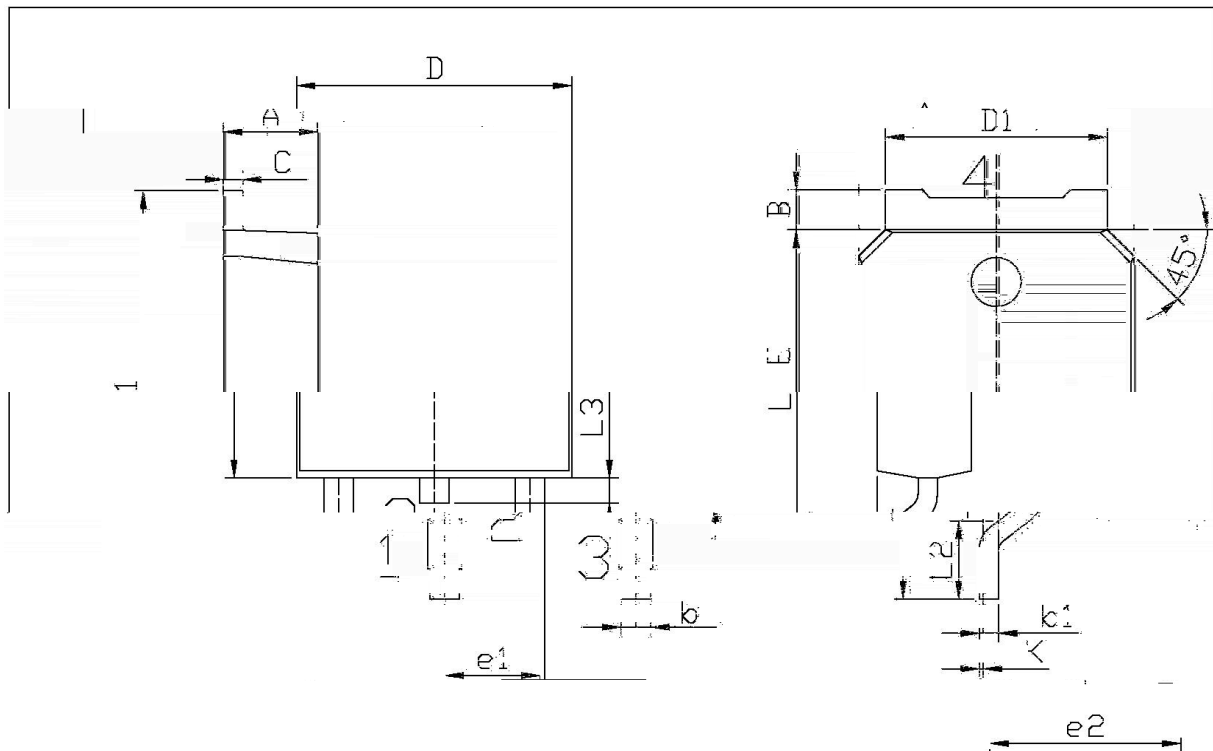
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions

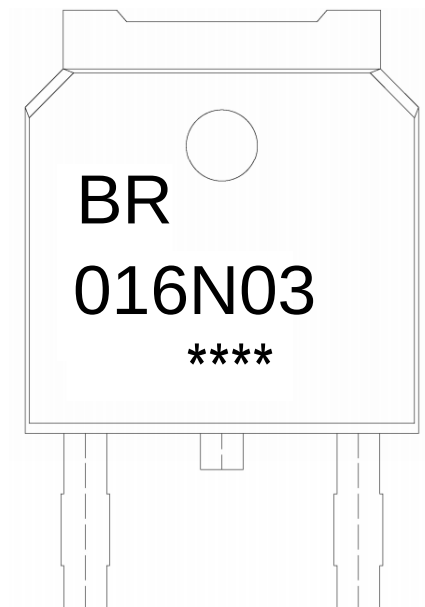


单位: mm

Symbol	Min	Max	Symbol	Min	Max
A	5.25	6.25	A	2.20	2.40
B	2.24	2.34	B	0.95	1.25
C	4.50	5.50	C	0.70	0.90
D	9.85	10.35	D	0.45	0.55
D1	1.70	2.00	D1	0.45	0.55
E	6.45	6.75	E	0.60	0.90
L	5.50	5.70	L	0.09	0.10
L3	3.10	3.40	L3	0.09	0.10
L2	0.45	0.55	L2	0.45	0.55
L1	0.45	0.55	L1	0.45	0.55
L4	0.45	0.55	L4	0.45	0.55
L5	0.45	0.55	L5	0.45	0.55
L6	0.45	0.55	L6	0.45	0.55
L7	0.45	0.55	L7	0.45	0.55
L8	0.45	0.55	L8	0.45	0.55
L9	0.45	0.55	L9	0.45	0.55
L10	0.45	0.55	L10	0.45	0.55
L11	0.45	0.55	L11	0.45	0.55
L12	0.45	0.55	L12	0.45	0.55
L13	0.45	0.55	L13	0.45	0.55
L14	0.45	0.55	L14	0.45	0.55
L15	0.45	0.55	L15	0.45	0.55
L16	0.45	0.55	L16	0.45	0.55
L17	0.45	0.55	L17	0.45	0.55
L18	0.45	0.55	L18	0.45	0.55
L19	0.45	0.55	L19	0.45	0.55
L20	0.45	0.55	L20	0.45	0.55
L21	0.45	0.55	L21	0.45	0.55
L22	0.45	0.55	L22	0.45	0.55
L23	0.45	0.55	L23	0.45	0.55
L24	0.45	0.55	L24	0.45	0.55
L25	0.45	0.55	L25	0.45	0.55
L26	0.45	0.55	L26	0.45	0.55
L27	0.45	0.55	L27	0.45	0.55
L28	0.45	0.55	L28	0.45	0.55
L29	0.45	0.55	L29	0.45	0.55
L30	0.45	0.55	L30	0.45	0.55
L31	0.45	0.55	L31	0.45	0.55
L32	0.45	0.55	L32	0.45	0.55
L33	0.45	0.55	L33	0.45	0.55
L34	0.45	0.55	L34	0.45	0.55
L35	0.45	0.55	L35	0.45	0.55
L36	0.45	0.55	L36	0.45	0.55
L37	0.45	0.55	L37	0.45	0.55
L38	0.45	0.55	L38	0.45	0.55
L39	0.45	0.55	L39	0.45	0.55
L40	0.45	0.55	L40	0.45	0.55
L41	0.45	0.55	L41	0.45	0.55
L42	0.45	0.55	L42	0.45	0.55
L43	0.45	0.55	L43	0.45	0.55
L44	0.45	0.55	L44	0.45	0.55
L45	0.45	0.55	L45	0.45	0.55
L46	0.45	0.55	L46	0.45	0.55
L47	0.45	0.55	L47	0.45	0.55
L48	0.45	0.55	L48	0.45	0.55
L49	0.45	0.55	L49	0.45	0.55
L50	0.45	0.55	L50	0.45	0.55
L51	0.45	0.55	L51	0.45	0.55
L52	0.45	0.55	L52	0.45	0.55
L53	0.45	0.55	L53	0.45	0.55
L54	0.45	0.55	L54	0.45	0.55
L55	0.45	0.55	L55	0.45	0.55
L56	0.45	0.55	L56	0.45	0.55
L57	0.45	0.55	L57	0.45	0.55
L58	0.45	0.55	L58	0.45	0.55
L59	0.45	0.55	L59	0.45	0.55
L60	0.45	0.55	L60	0.45	0.55
L61	0.45	0.55	L61	0.45	0.55
L62	0.45	0.55	L62	0.45	0.55
L63	0.45	0.55	L63	0.45	0.55
L64	0.45	0.55	L64	0.45	0.55
L65	0.45	0.55	L65	0.45	0.55
L66	0.45	0.55	L66	0.45	0.55
L67	0.45	0.55	L67	0.45	0.55
L68	0.45	0.55	L68	0.45	0.55
L69	0.45	0.55	L69	0.45	0.55
L70	0.45	0.55	L70	0.45	0.55
L71	0.45	0.55	L71	0.45	0.55
L72	0.45	0.55	L72	0.45	0.55
L73	0.45	0.55	L73	0.45	0.55
L74	0.45	0.55	L74	0.45	0.55
L75	0.45	0.55	L75	0.45	0.55
L76	0.45	0.55	L76	0.45	0.55
L77	0.45	0.55	L77	0.45	0.55
L78	0.45	0.55	L78	0.45	0.55
L79	0.45	0.55	L79	0.45	0.55
L80	0.45	0.55	L80	0.45	0.55
L81	0.45	0.55	L81	0.45	0.55
L82	0.45	0.55	L82	0.45	0.55
L83	0.45	0.55	L83	0.45	0.55
L84	0.45	0.55	L84	0.45	0.55
L85	0.45	0.55	L85	0.45	0.55
L86	0.45	0.55	L86	0.45	0.55
L87	0.45	0.55	L87	0.45	0.55
L88	0.45	0.55	L88	0.45	0.55
L89	0.45	0.55	L89	0.45	0.55
L90	0.45	0.55	L90	0.45	0.55
L91	0.45	0.55	L91	0.45	0.55
L92	0.45	0.55	L92	0.45	0.55
L93	0.45	0.55	L93	0.45	0.55
L94	0.45	0.55	L94	0.45	0.55
L95	0.45	0.55	L95	0.45	0.55
L96	0.45	0.55	L96	0.45	0.55
L97	0.45	0.55	L97	0.45	0.55
L98	0.45	0.55	L98	0.45	0.55
L99	0.45	0.55	L99	0.45	0.55
L100	0.45	0.55	L100	0.45	0.55

T0-252

/ Marking Instructions



BR

016N03

Note:

BR: Company Code

016N03: Product Type Code.

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

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

Note:

- | | | | | | |
|---|-----|-----|----|---------|---|
| 1 | 150 | 180 | 60 | 90sec; | 1.Preheating:150~180 , Time:60~90sec. |
| 2 | 245 | 5 | 5 | 0.5sec; | 2.Peak Temp.:245 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 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000	6	30,000	13" ×16	360×360×50	380×335×366

/ TUBE

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm ³)		
	Units/Tube 只/套管	Tubes/Inner Box 套管/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box			