

/ Revised record

A	2022.1.13	ALL	AOS-AOD2144		

TO-252 N
N-CHANNEL MOSFET in a TO-252 Plastic Pac c

/ Absolute Maximum Ratings(Ta=25)

Parameter		Symbol	Rating	Unit
Drain-Source Voltage		V_{DSS}	30	V
Drain Current		$I_D(T_c=25^\circ\text{C})$	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		$P_D(T_c=25^\circ\text{C})$	156	W
Storage Temperature Range		T_{stg}	-55 to 150	$^\circ\text{C}$
Thermal Resistance-Junction to Ambient	$t \leq 10\text{s}$	$R_{\theta JA}$	20	/W
	Steady-State		50	
Thermal Resistance-Junction to Case	Steady-State	$R_{\theta JC}$	0.8	

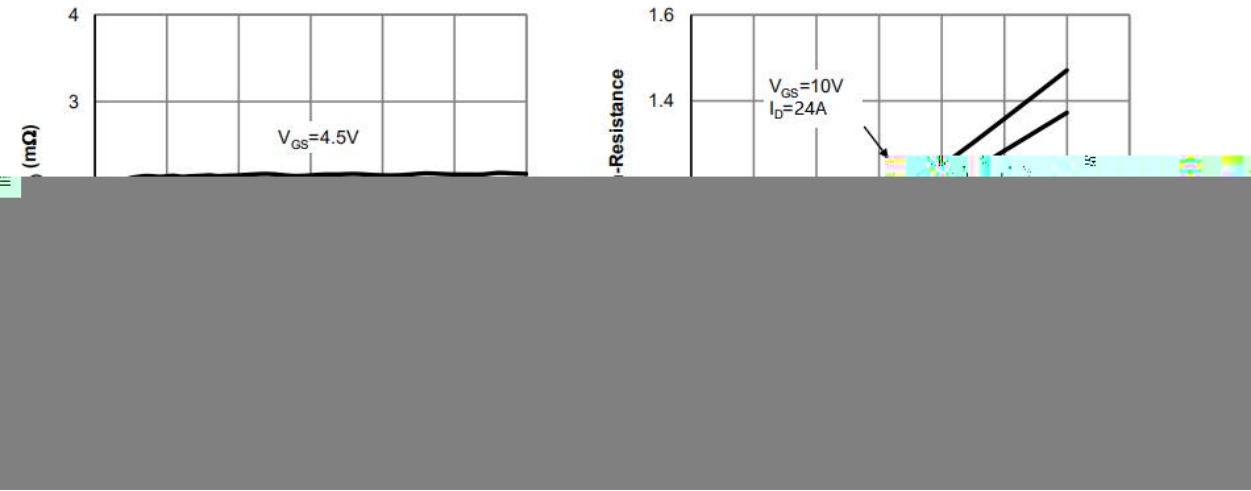
/ Electrical Characteristics(Ta=25)

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

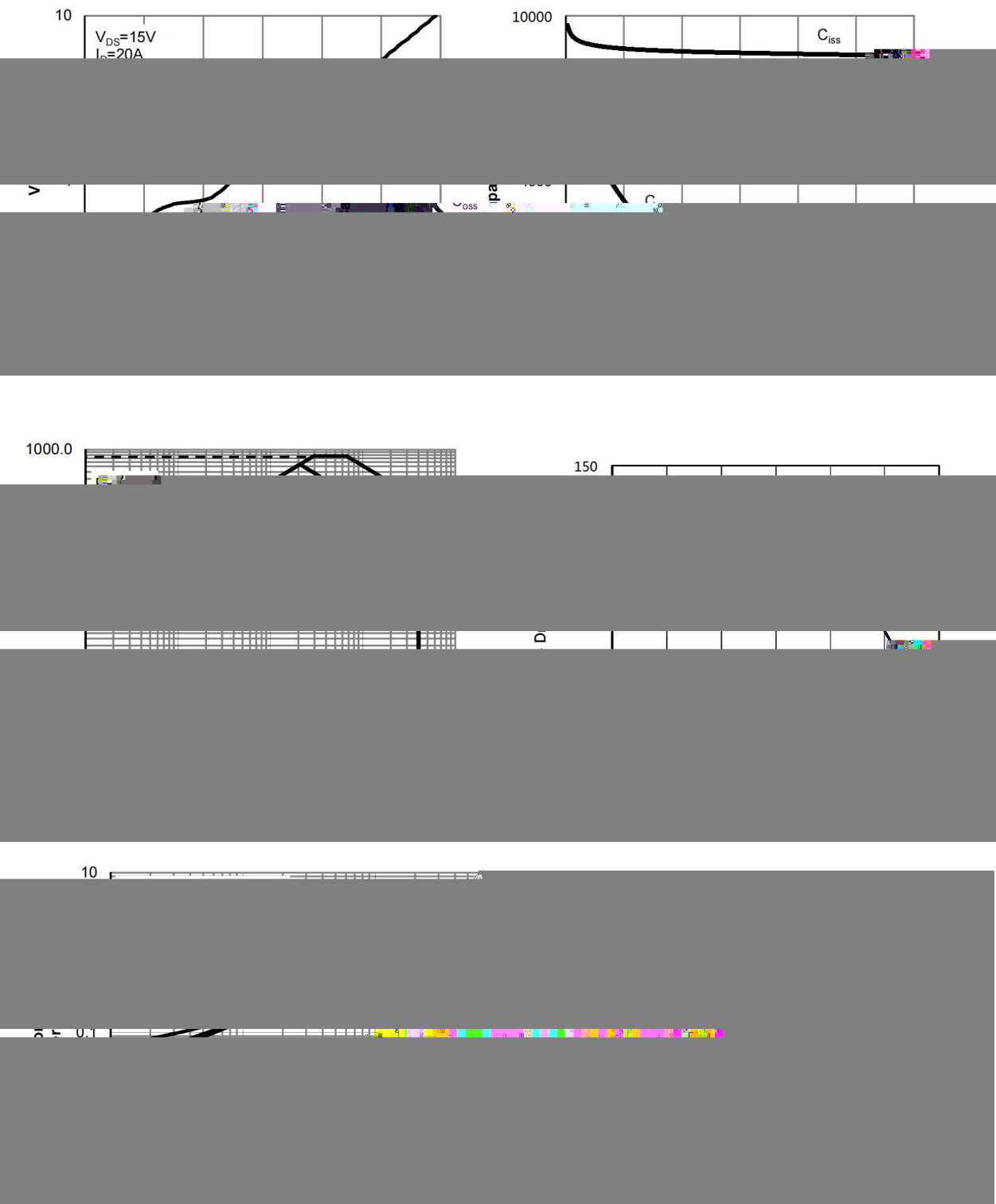
/ Electrical Characteristics(Ta=25)

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		

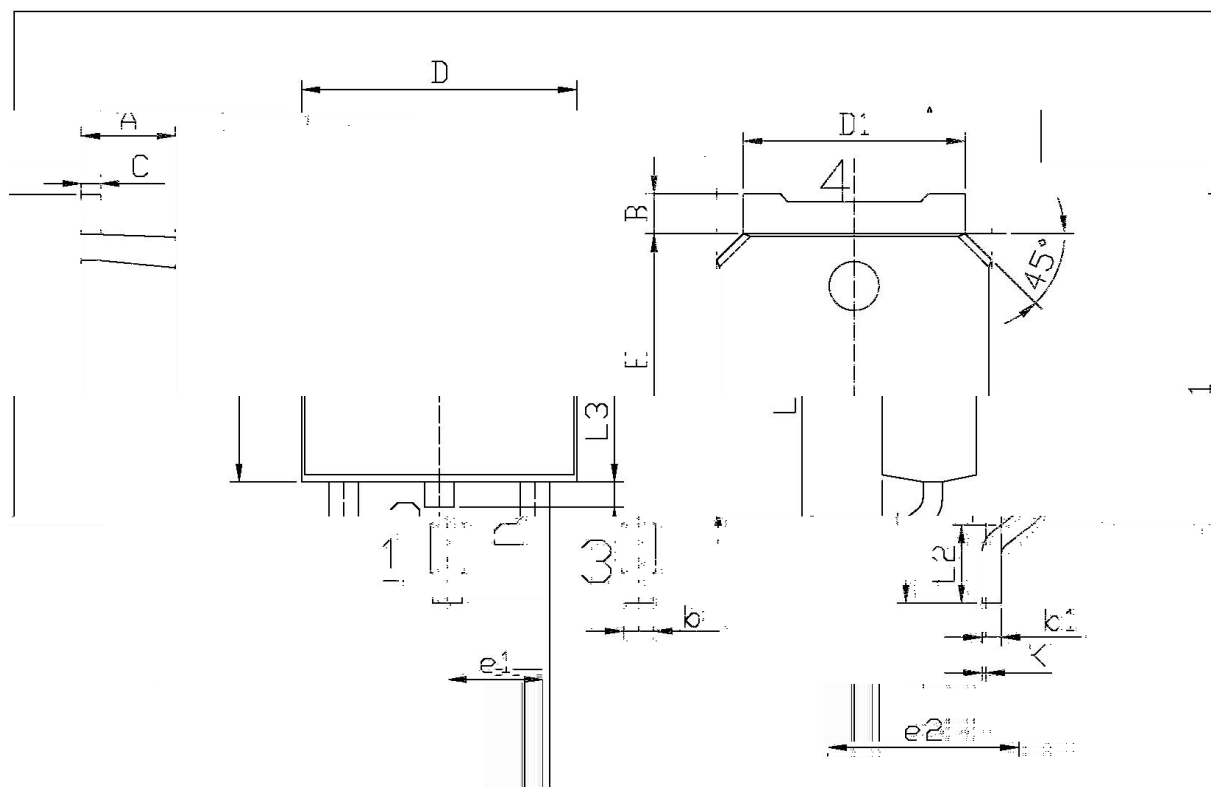
/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Package Dimensions

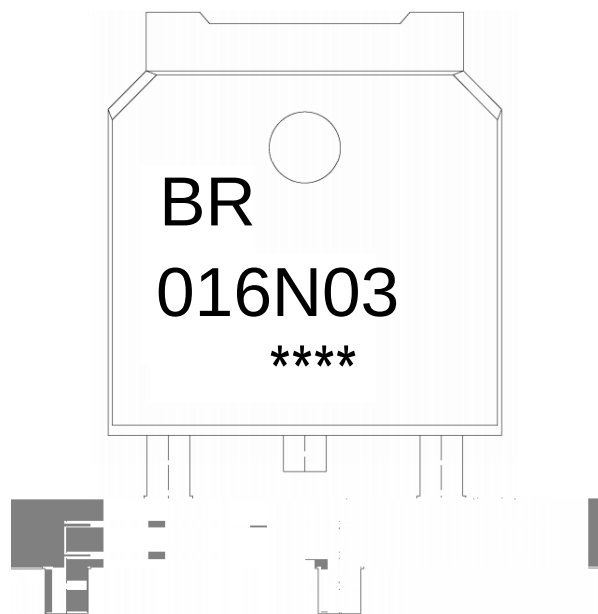


单位: mm

Symbol	Symbol	Symbol	Symbol
Max	Max	Max	Max
2.20	2.40	5.95	6.25
B	1.25	2.24	2.32
0.95	1.25	2.24	2.32
0.45	0.55	1.70	2.00
0.60	0.90	6.45	6.75
0.60	0.90	6.45	6.75

TD-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;
- 2 245±5 5±0.5sec;
- 3 2 10 /sec.

- 1.Preheating:150~180 , Time:60~90sec.
- 2.Peak Temp.:245±5 , Duration:5±0.5sec.
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.