/ Descriptions

TO-252 SiC N MOS

SiC N-CHANNEL MOSFET in a TO-252 Plastic Package.

/ Features

V_{DS}=800V I_D=7A

$R_{DS(on)}$@15V≤650mΩ(Type.500mΩ)

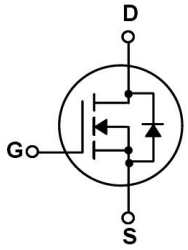
$R_{DS(on)}$@18V≤600mΩ(Type. 378mΩ)

/ Applications

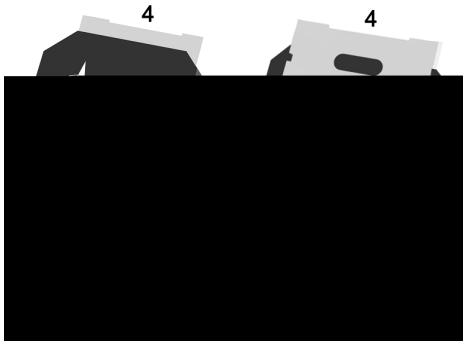
LED PD PC

LED driver, PD charger, PC adapter, Air-conditioning, E-bike charger.

/ Equivalent Circuit



/ Pinning



PIN1 G PIN 2 D PIN 3 S PIN 4 D

/ Marking

See Marking Instructions.

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	800	V
Continuous DC Drain Current for $R_{th(j-c,typ.)}$, Limited by $T_{VJ(max)}$	I_D(Tc=25)	7	A
	I_D(Tc=100)	5.7	A
Peak Drain Current, tp Limited by $T_{VJ(max)}$	I_{DM}	12	A
Gate-Source Max Voltage	$V_{GS,max}$	-10/+22	V
Gate-Source Operate Voltage	$V_{GS,op}$	0/+15	V
Single Pulse Avalanche Energy	E_{AS}	10.2	mJ
Power Dissipation or $R_{th(j-c,typ.)}$	P_D		

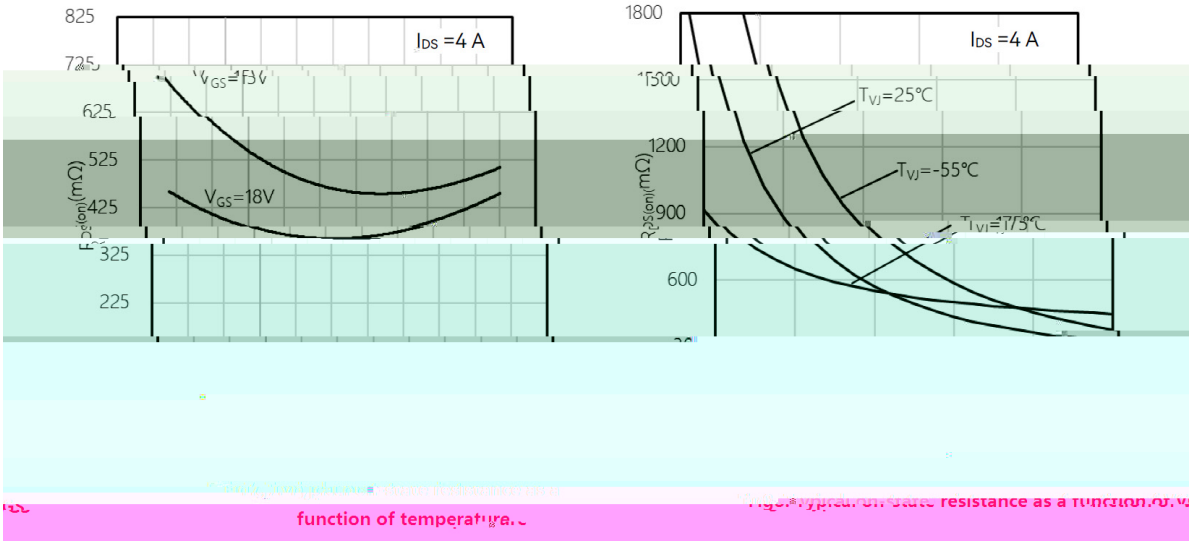
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=0/15V L=600μH V_{DD}=400V I_D=4A R_g=10Ω		16.1		ns
Turn-On Rise Time	t_r			13.9		
Turn-Off Delay Time	$t_{d(off)}$			13.3		
Turn-Off Fall Time	t_f			13.7		
Turn−On Switching Loss	E_{on}			41.2		μJ
Turn−Off Switching Loss	E_{off}			3.1		
Total Switching Energy	E_{t}M.76 572.18 .48001 18.42 ref539.22 tching Energy					

BRSC80R600ZDP

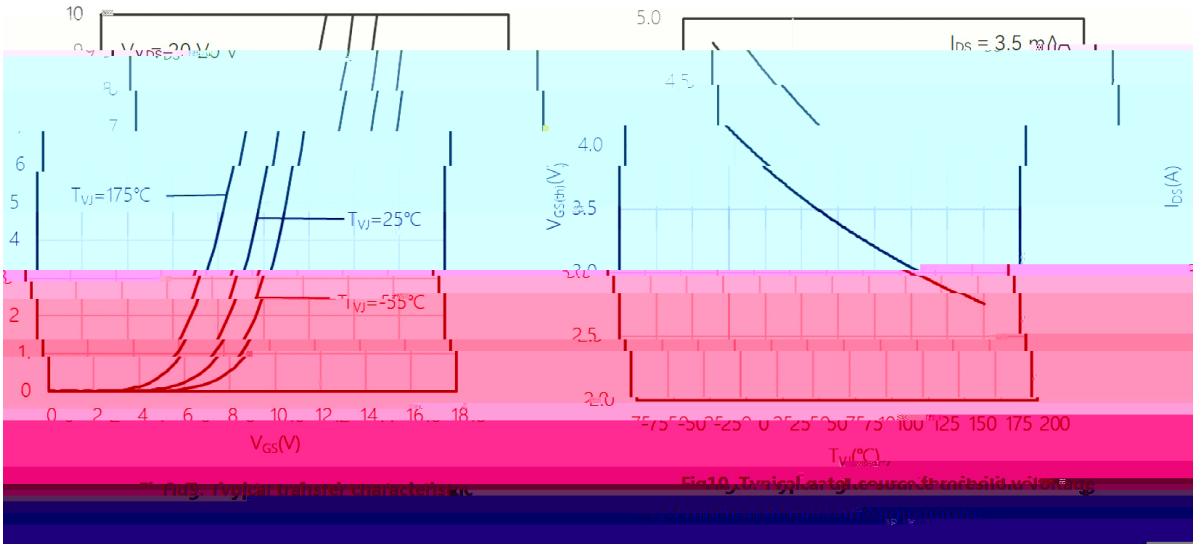
Rev.B Jul.-2026

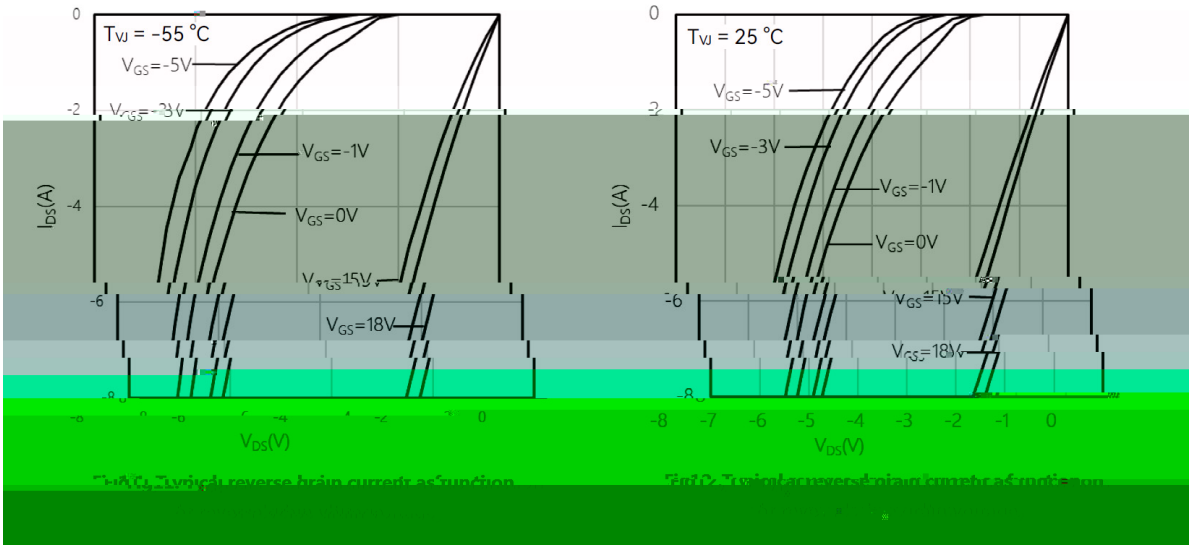
DATA SHEET

/ Electrical Characteristic Curve

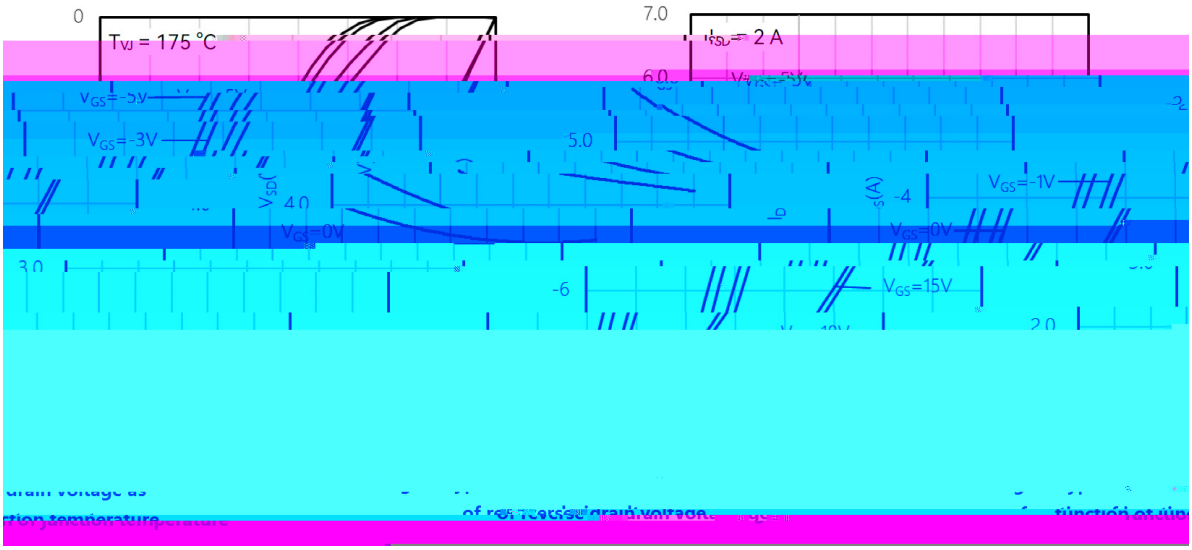


function of temperature.

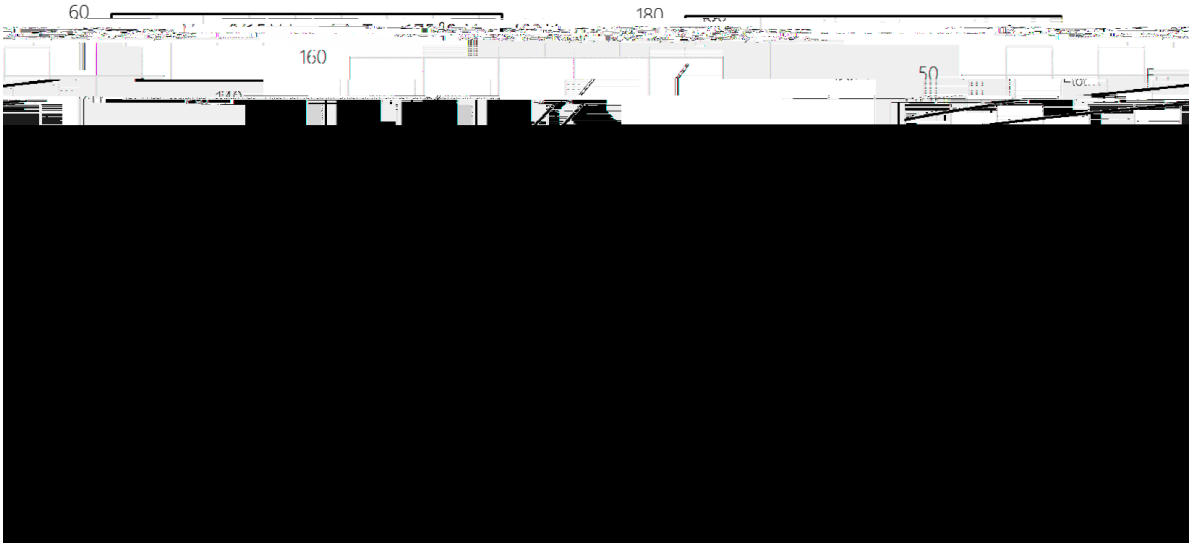




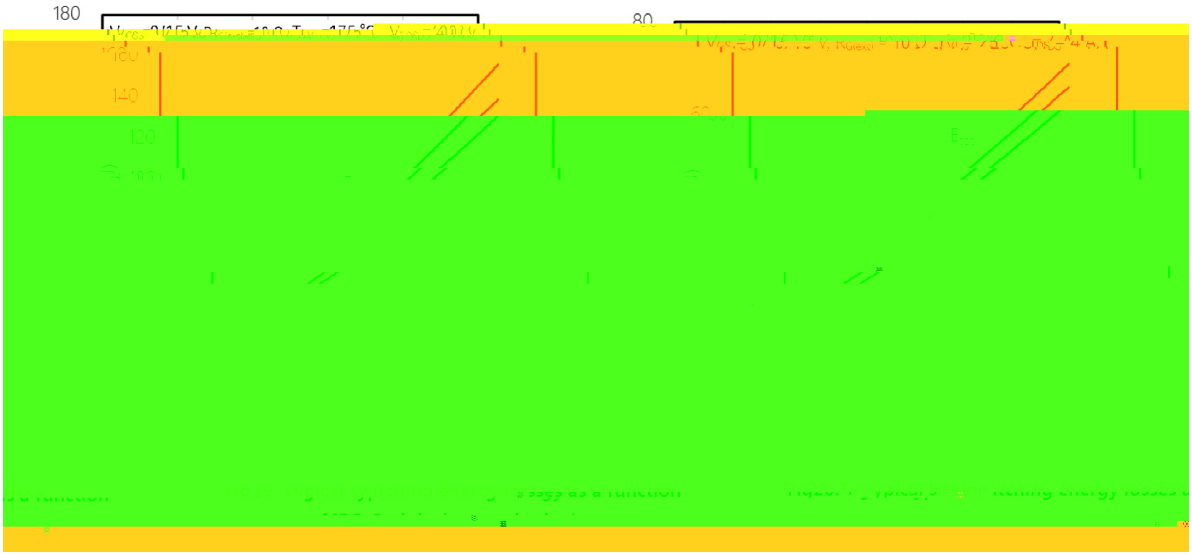
/ Electrical Characteristic Curve

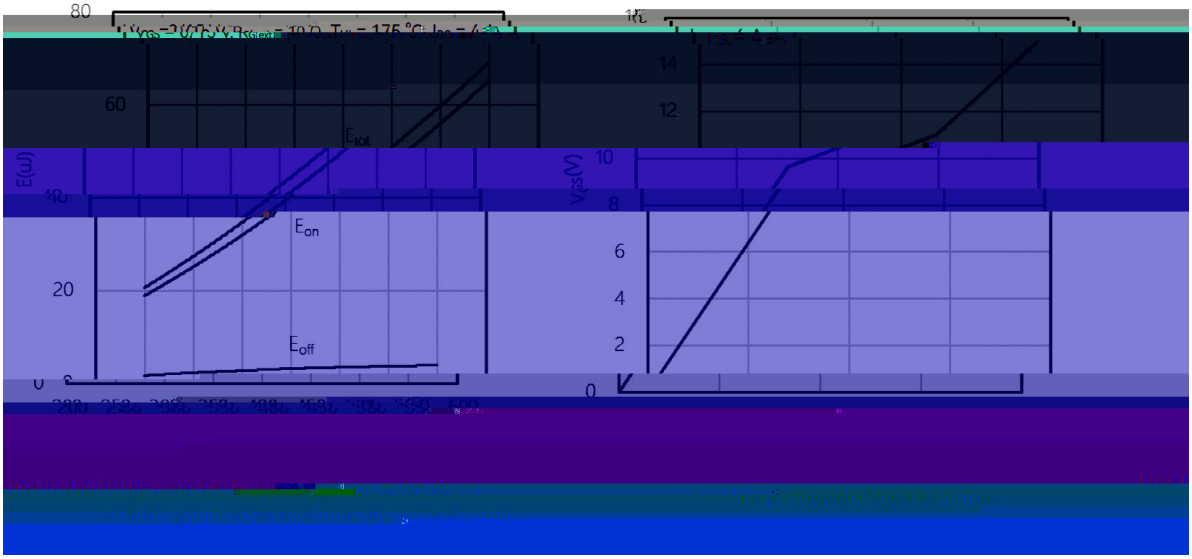






/ Electrical Characteristic Curve





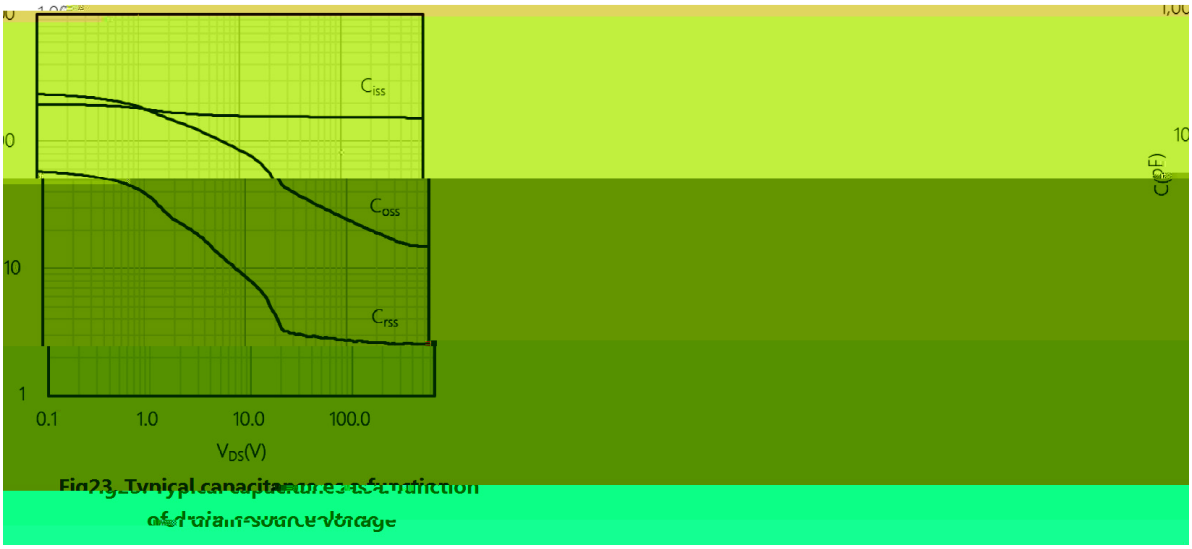
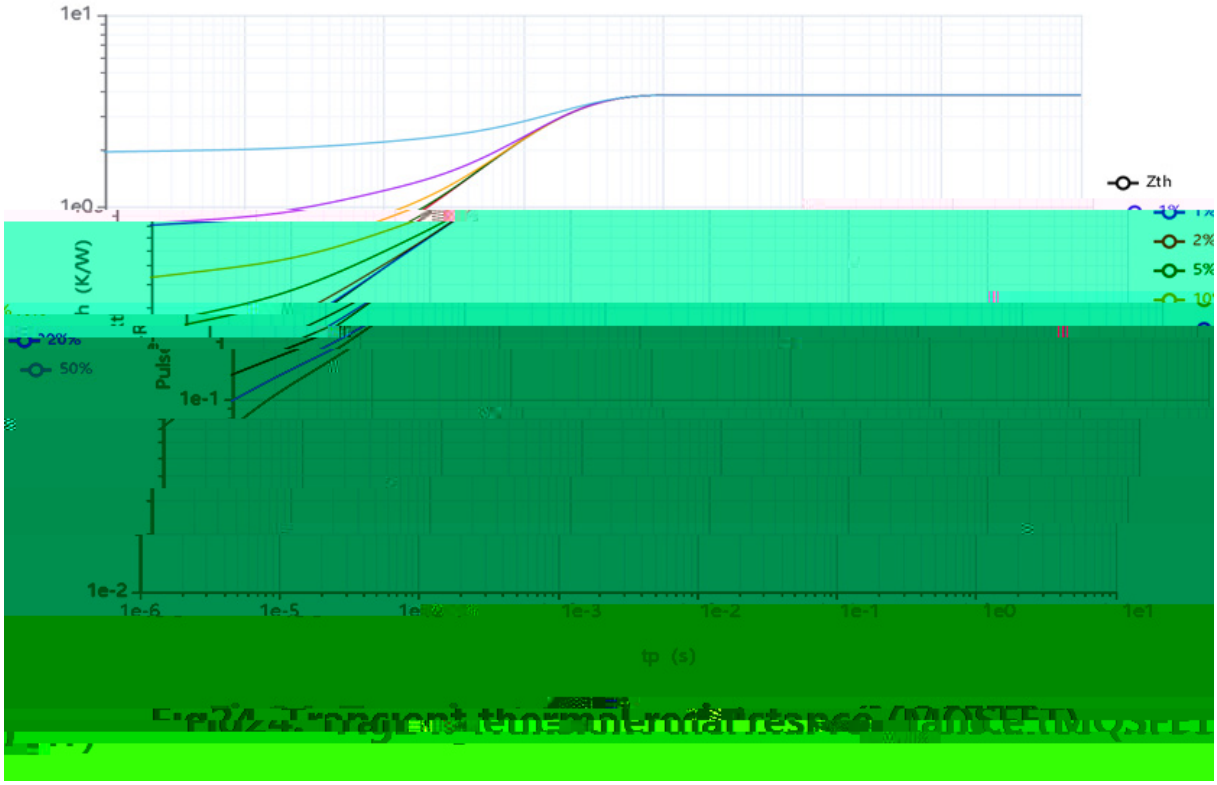
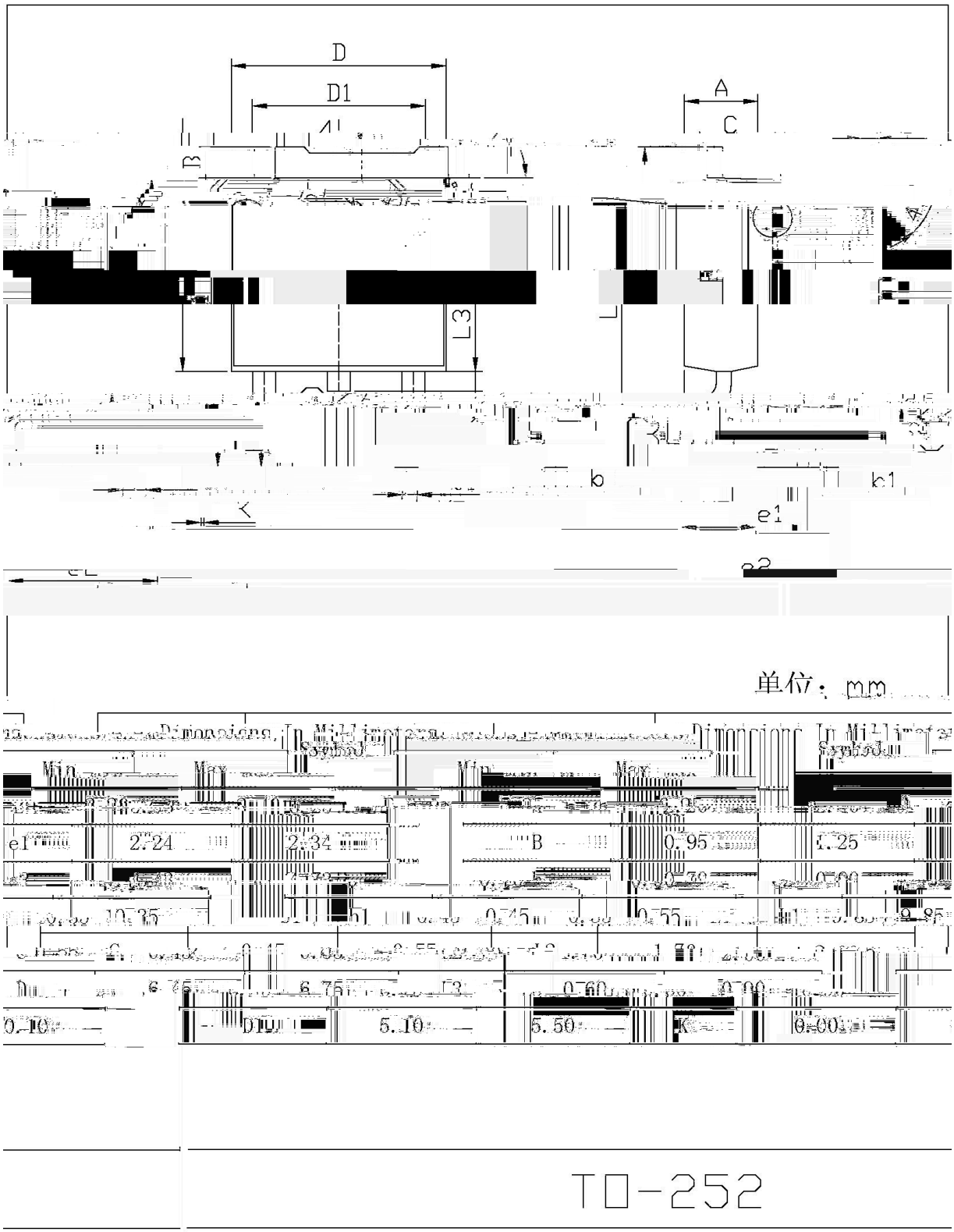


Fig23. Typical capacitance as a function of drain-source voltage

/ Electrical Characteristic Curve

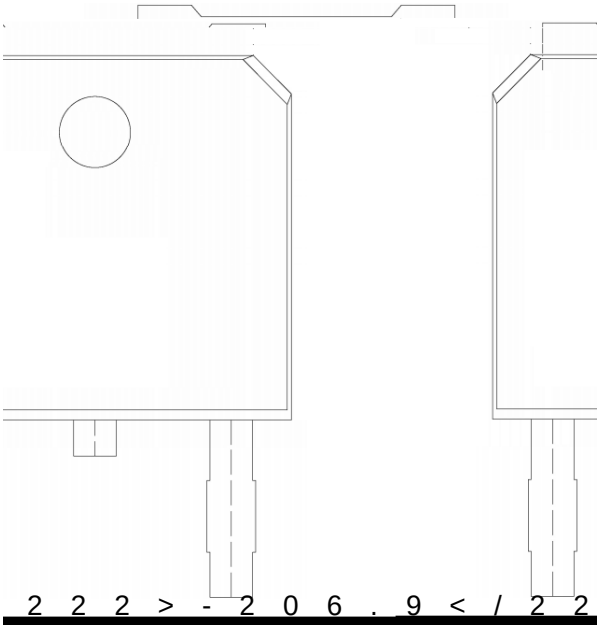


/ Package Dimensions



TO-252

/ Marking Instructions



< / 2 2 2 > - 2 0 6 . 9 < / 2 2 2 > - 2 0 1 I m < / 2

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