

BRSC80R480ZDP

Rev.B Jul.-2026

/ Descriptions

TO-252 SiC N MOS

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

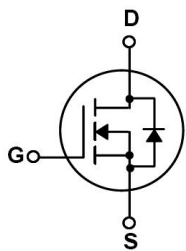
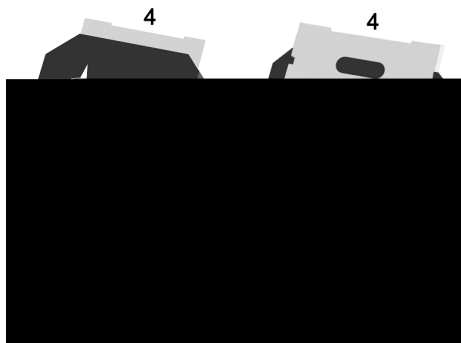
$V_{DS}=800V$ $I_D=8.8A$

$R_{DS(on)}@15V \leq 568m\Omega$ (Type. 437m Ω)

$R_{DS(on)}@18V \leq 480m\Omega$ (Type. 316m Ω)

LED PD PC

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



PIN1 G

PIN 2 D

PIN 3 S

PIN 4 D

/ Marking

See Marking Instructions.

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DATA SHEET

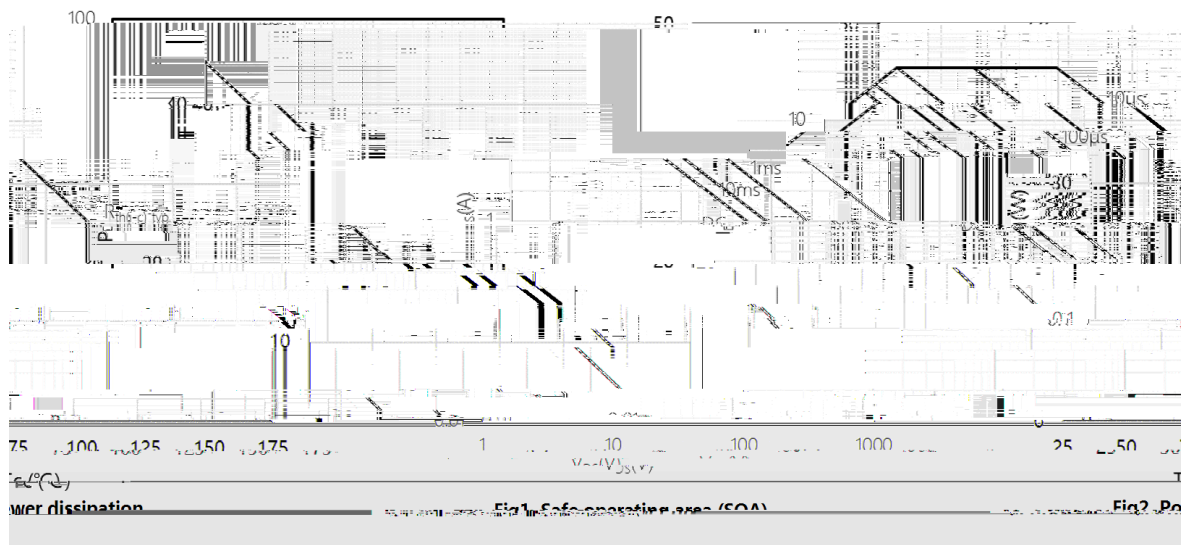
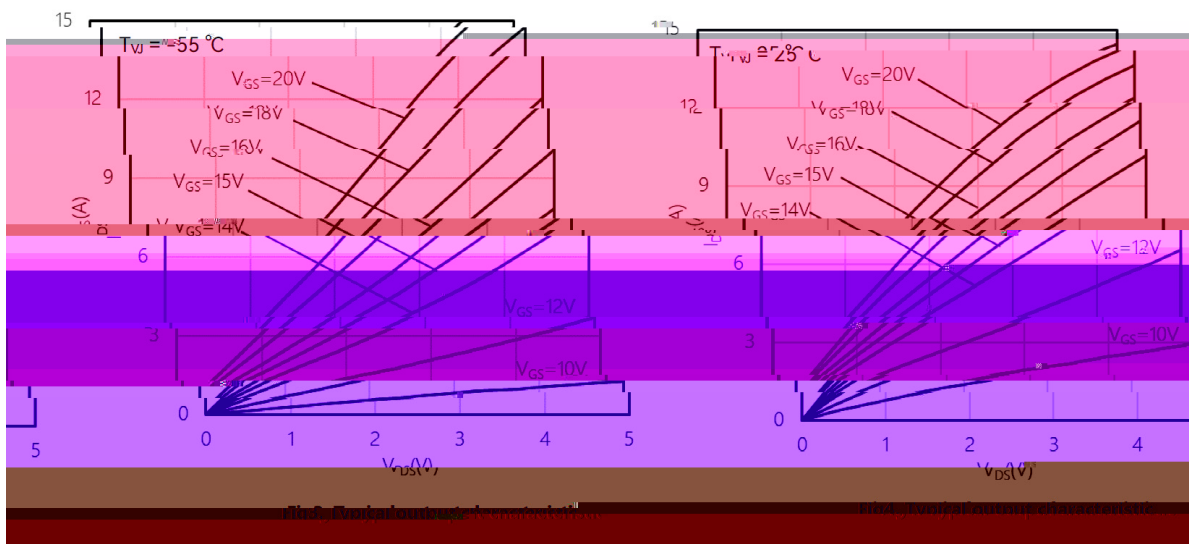
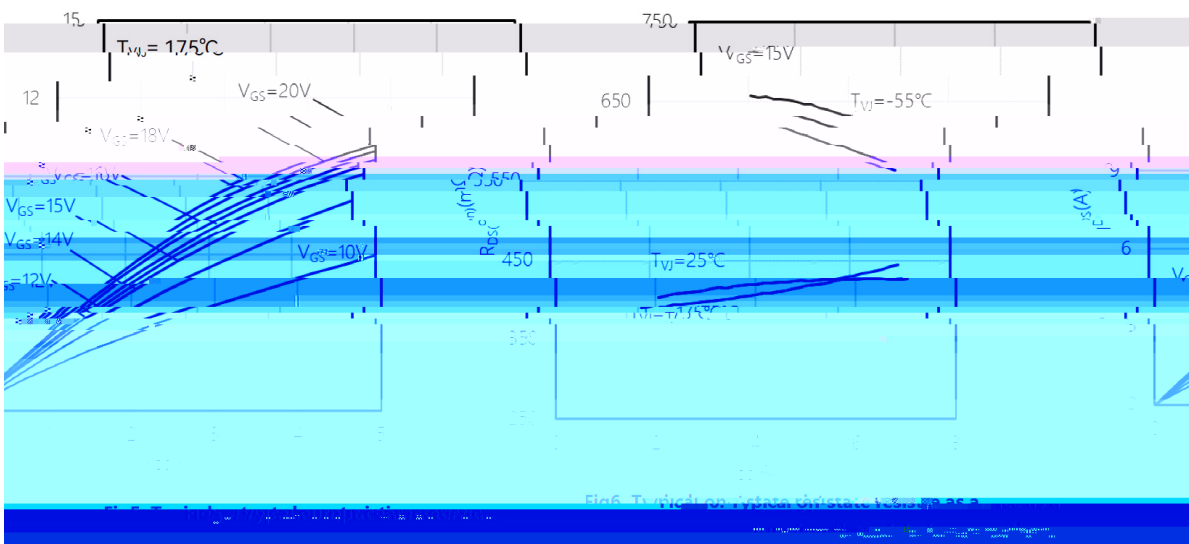
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	800	V
Continuous DC Drain Current for $R_{th(j-c,typ.)}$, Limited by $T_{VJ(max)}$	$I_D(T_c=25^\circ C)$	8.8	A
	$I_D(T_c=100^\circ C)$	6.8	A
Peak Drain Current, tp Limited by $T_{VJ(max)}$	I_{DM}	14	A
Gate-Source Max Voltage	$V_{GS,max}$	-10/+22	V
Gate-Source Operate Voltage	$V_{GS,op}$	0/+15	V
Single Pulse Avalanche Energy	E_{AS}	13.3	mJ
Power Dissipation or $R_{th(j-c,typ.)}$	$P_D(T_c=25^\circ C)$	45	W
Operating and Storage Temperature Range	T_{VJ}, T_{STG}	-55 to 175	
MOSFET/Body Diode Junction-Case Thermal Resistance	$R_{th(j-c)}$	3.33	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV					

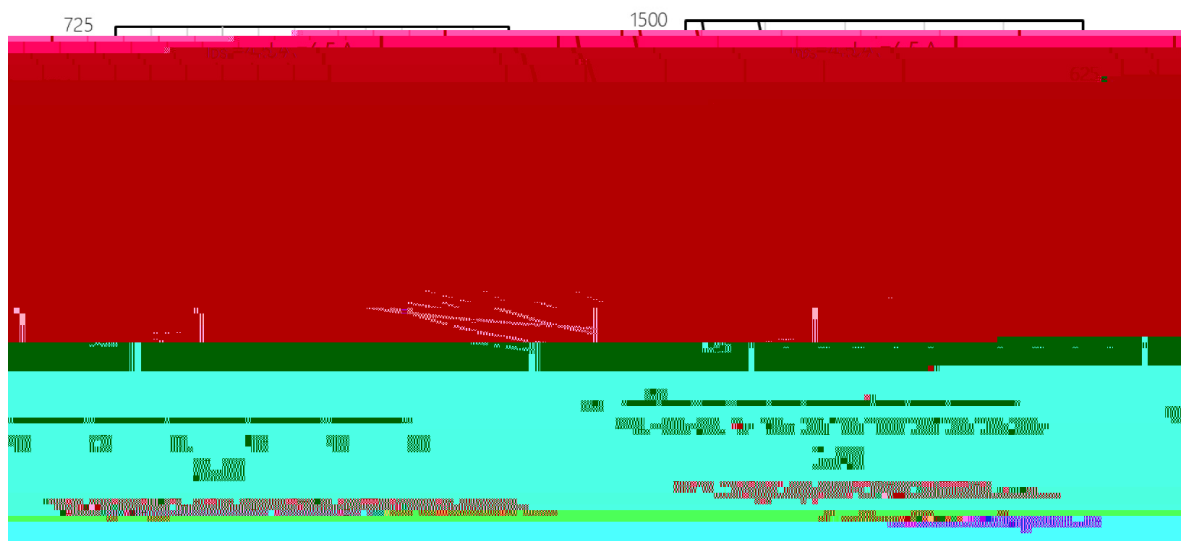
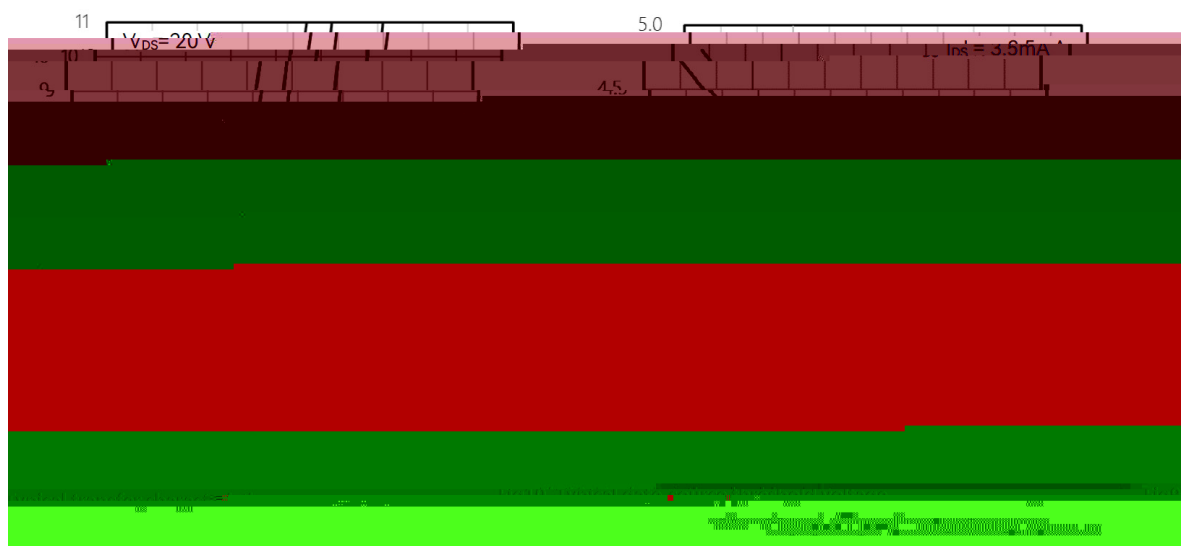
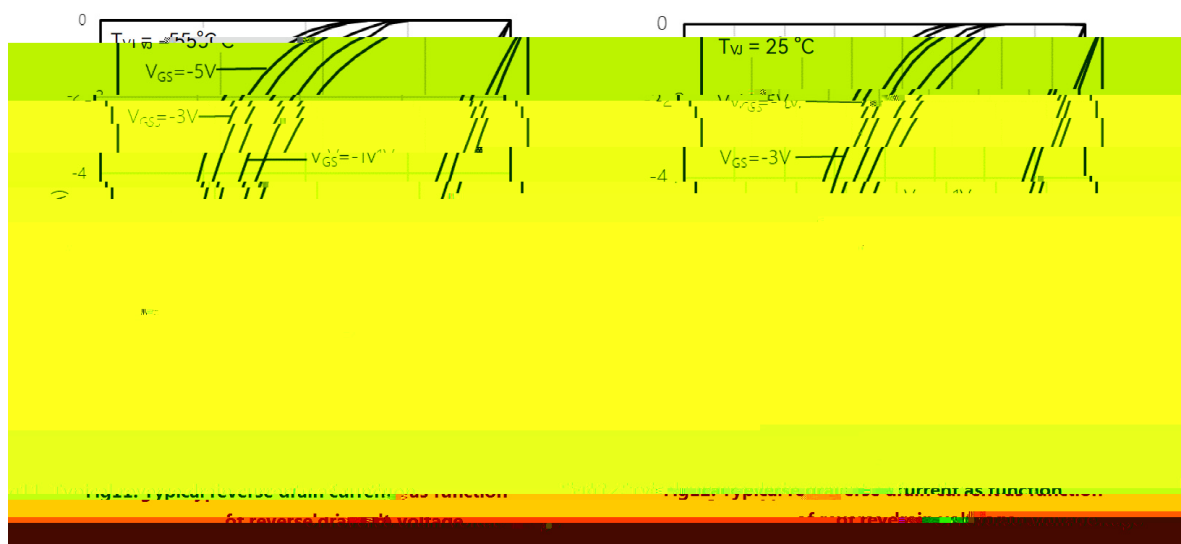
/ Electrical Characteristics(Tc=25)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=0/15V$ $L=600\mu H$ $V_{DD}=400V$ $I_D=4.5A$ $R_g=9.1\Omega$		17.0		ns
Turn-On Rise Time	t_r			12.2		
Turn-Off Delay Time	$t_{d(off)}$			14.5		
Turn-Off Fall Time	t_f			13.1		
Turn-On Switching Loss	E_{on}			45.4		μJ
Turn-Off Switching Loss	E_{off}			3.86		
Total Switching Energy	E_{tot}			49.2		
Gate resistance	R_g	$V_{AC}=25mV$ $f=1MHz$		25		Ω
Input Capacitance	C_{iss}	$V_{DS}=400V$ $V_{GS}=0V$ $f=1MHz$		170		pF
Output Capacitance	C_{oss}			13		
Reverse Transfer Capacitance	C_{rss}			1.3		
Total Gate Charge	Q_g	$V_{GS}=0/15V,$ $V_{DS}=400V,$ $I_D=4.5A$		9.0		nC
Gate Source Charge	Q_{gs}			3.2		
Gate Drain Charge	Q_{gd}			1.3		

/ Electrical Characteristic Curve



/ Electrical Characteristic Curve



/ Electrical Characteristic Curve

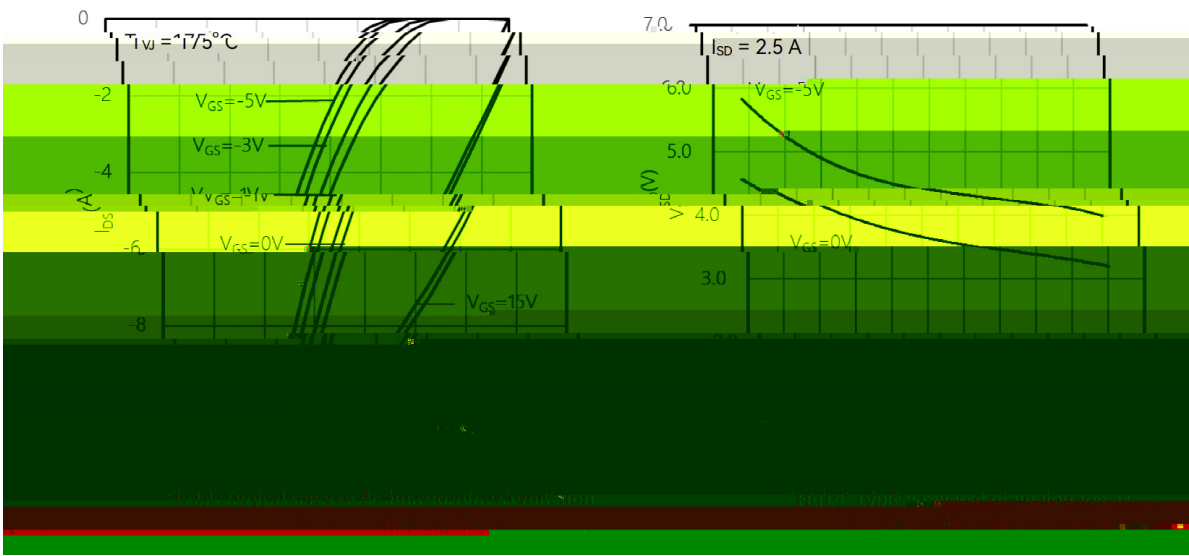
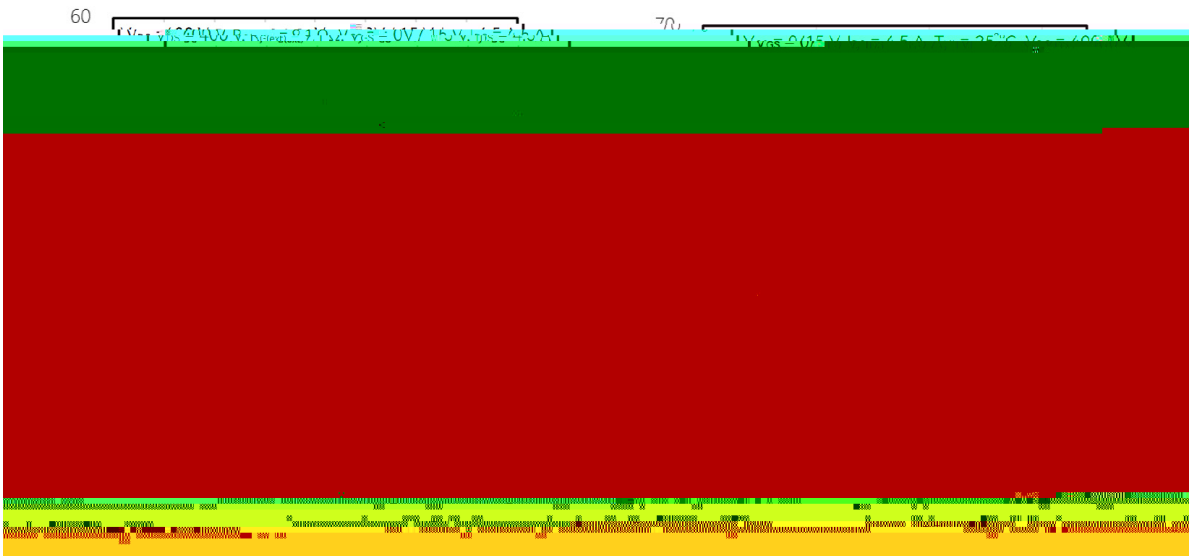
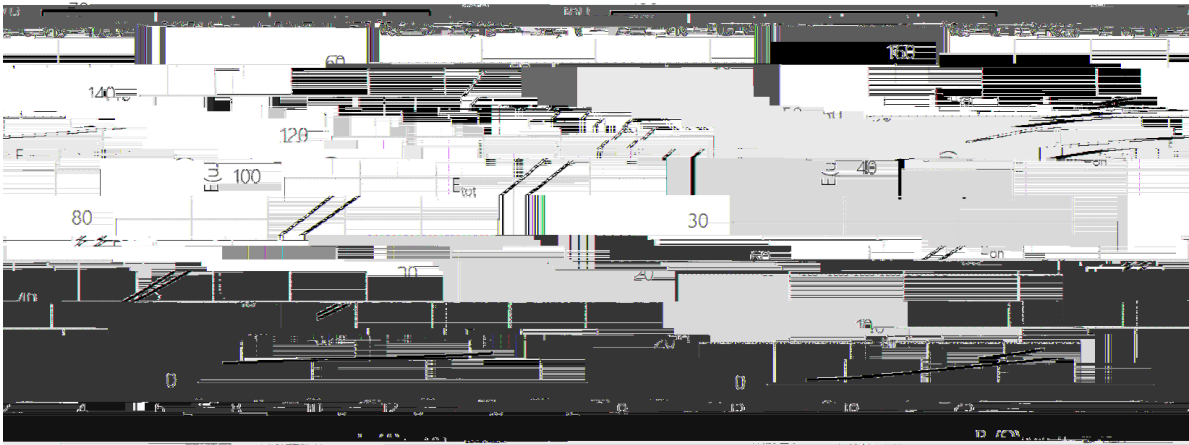
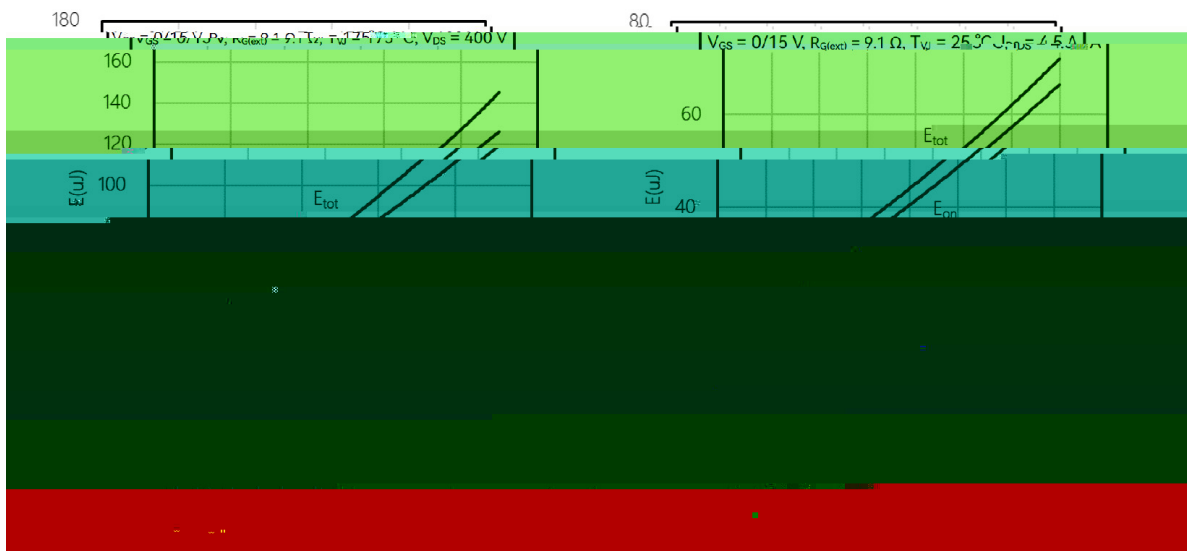
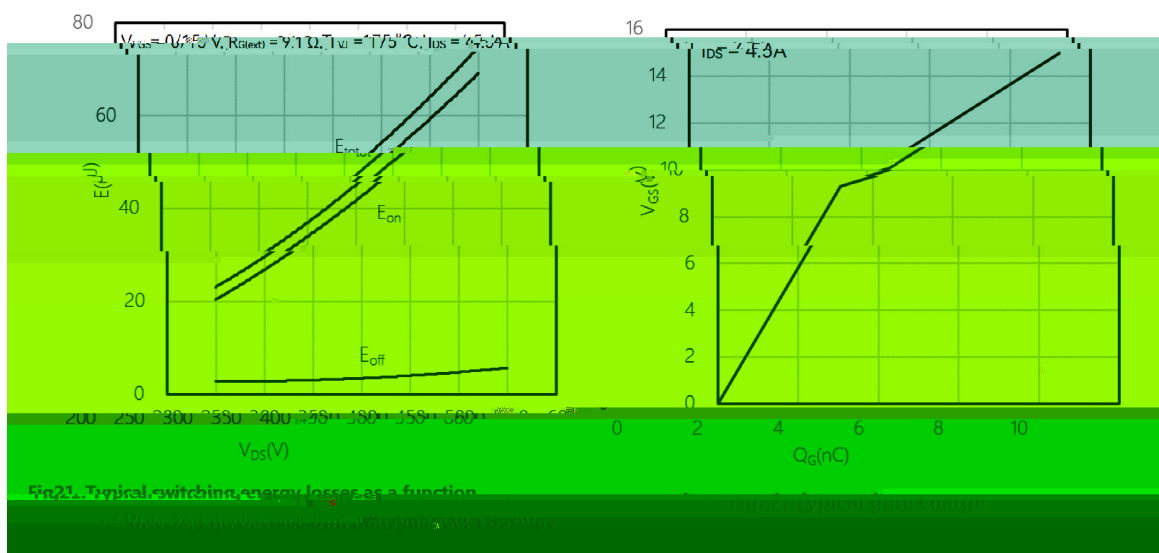
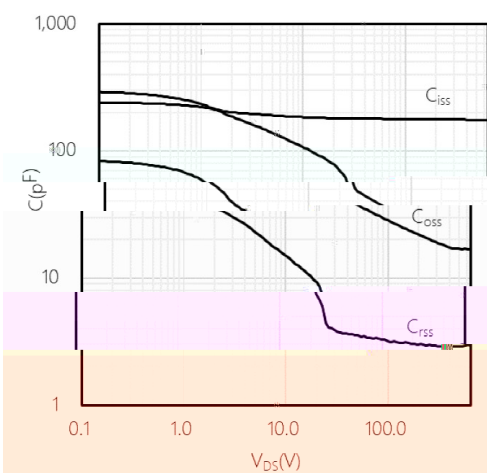


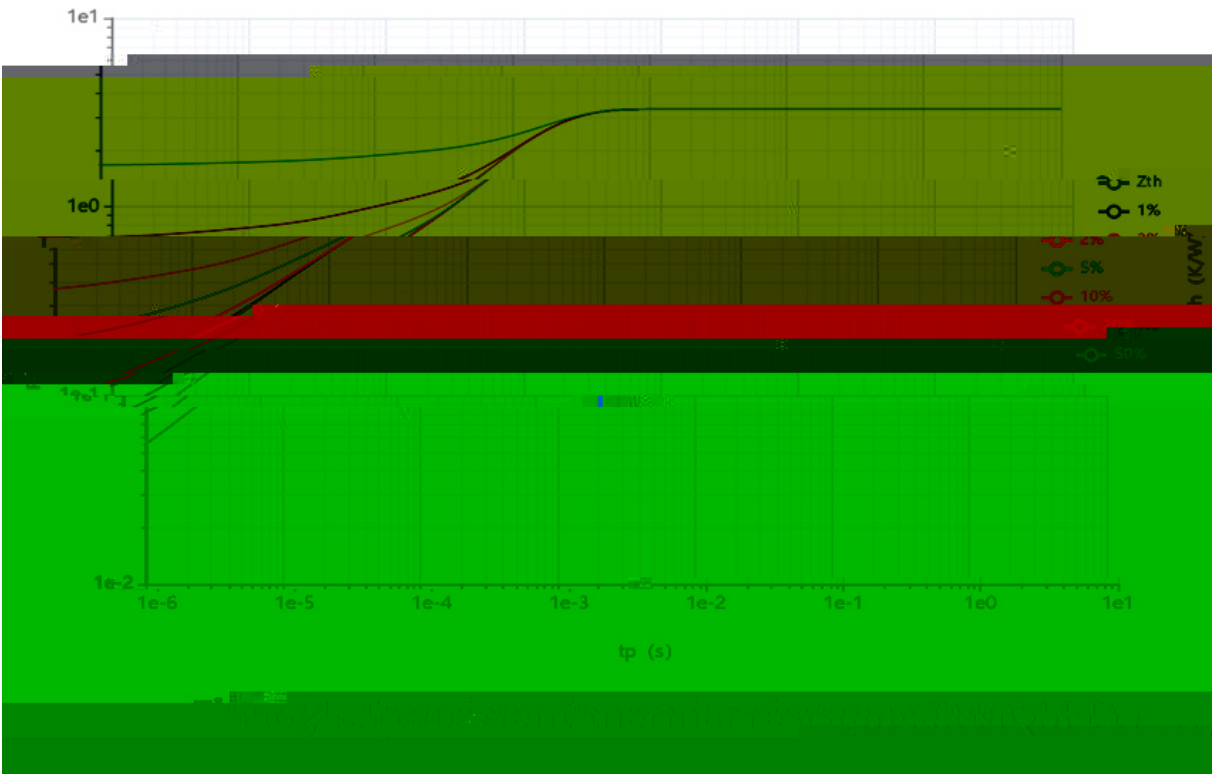
Fig17. Typical switching energy losses as a function of gate resistance. 2nd device own body diode; $V_{GS} = 0V$.

Fig18. Typical switching energy losses as a function of I_{DS} . 2nd device own body diode; $V_{GS} = 0V$.

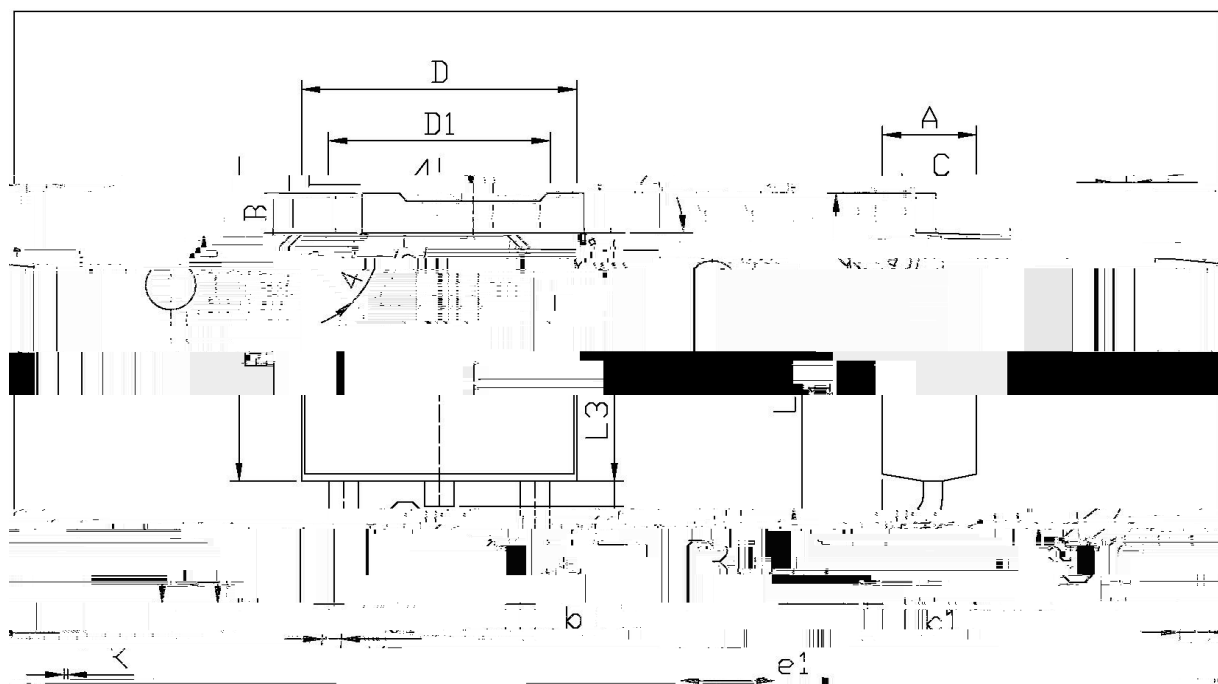
/ Electrical Characteristic Curve

Fig23. Typical capacitance as a function of V_{DS}

/ Electrical Characteristic Curve



/ Package Dimensions



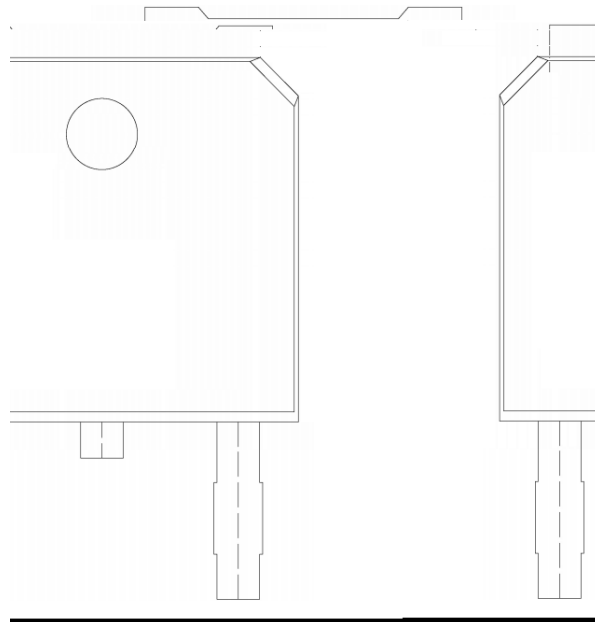
单位: mm

[illegible]

T0-252



/ Marking Instructions



() / 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.

/ REEL 1