/ Descriptions

TO-252 SiC N MOS

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

/ Features

V_{DS}=650V I_D=7A

$R_{DS(on)}$@15V≤650mΩ(Type.500mΩ)

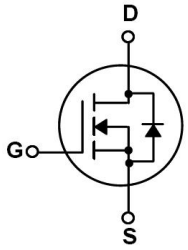
$R_{DS(on)}$@18V≤600mΩ(Type. 378mΩ)

/ Applications

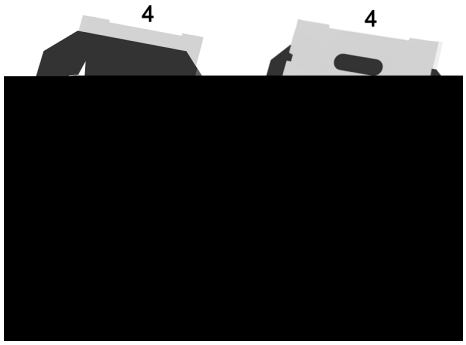
LED PD PC

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.

/ Absolute Maximum Ratings(Tc=25)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	650	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 $T_{VJ(me5G(max)13.5())}$TJ10.4958 0 0 10.5 254.94 621.1403 Tm7.2852 Tc(I)Tj7.0172 0 0 7.02 337.26 620.6603 Tm-.0

/ Electrical Characteristics(Tc=25)

	rr			0.19		µJ

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_{tot}					

5 0)7 628.52 117.54 Switching Loss tM.76 572.18 .48001 18.42 ref539.22 tching Energy

/ Electrical Characteristic Curve

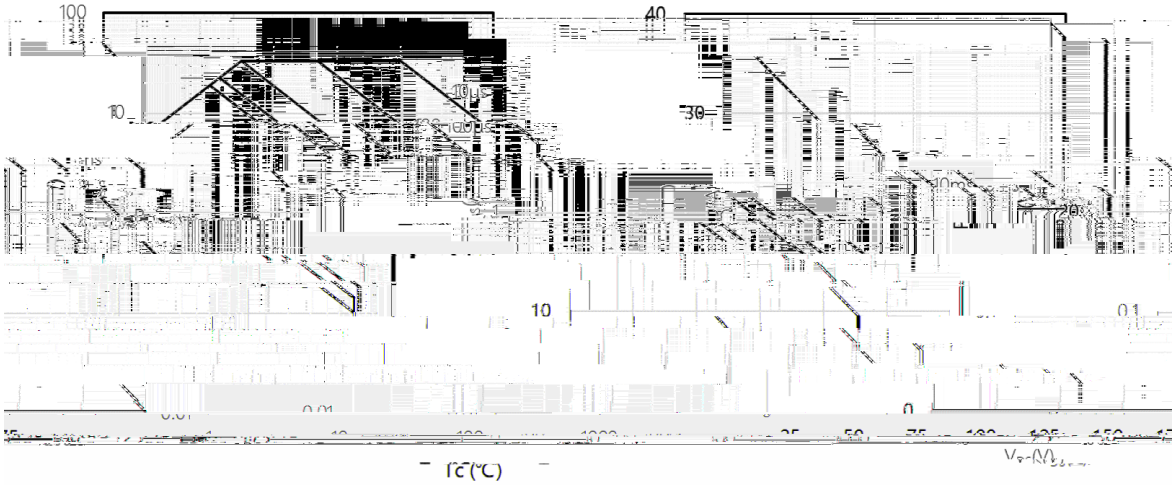
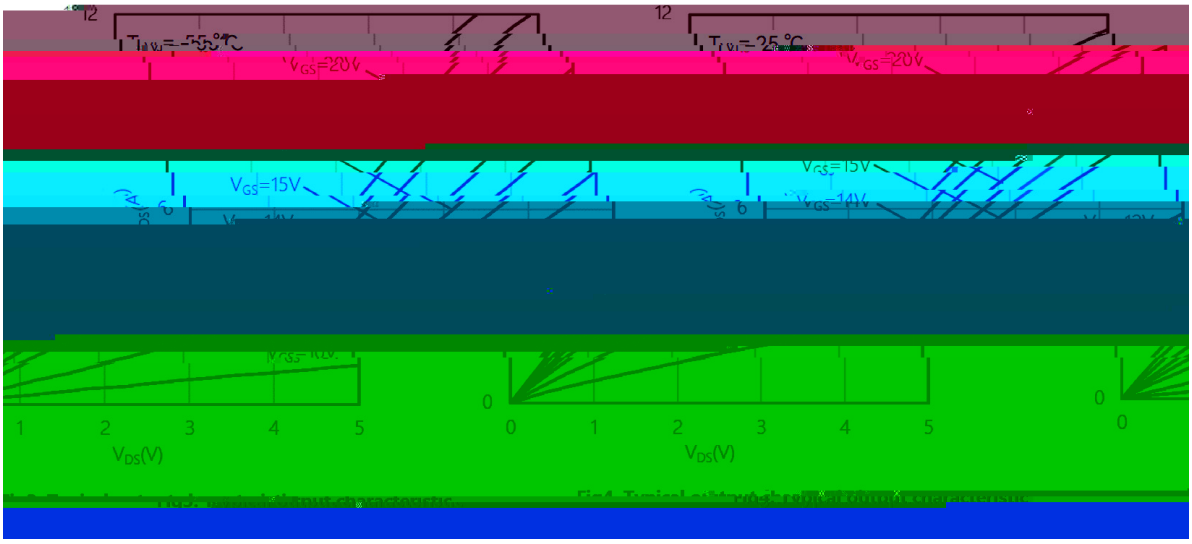


Fig2. Power dissipation

Fig1. Safe operating area (SC



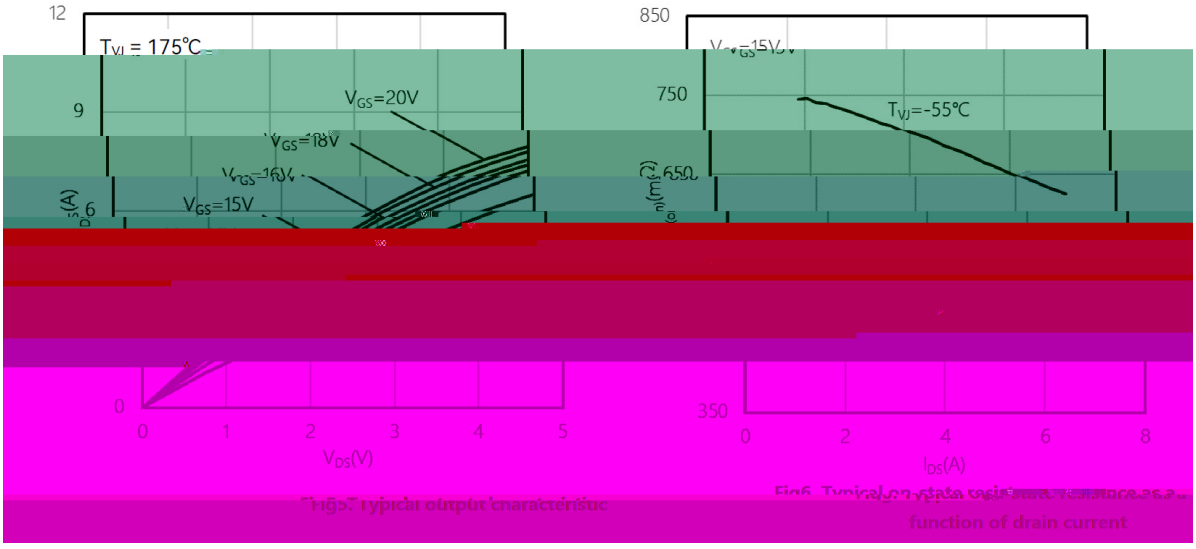
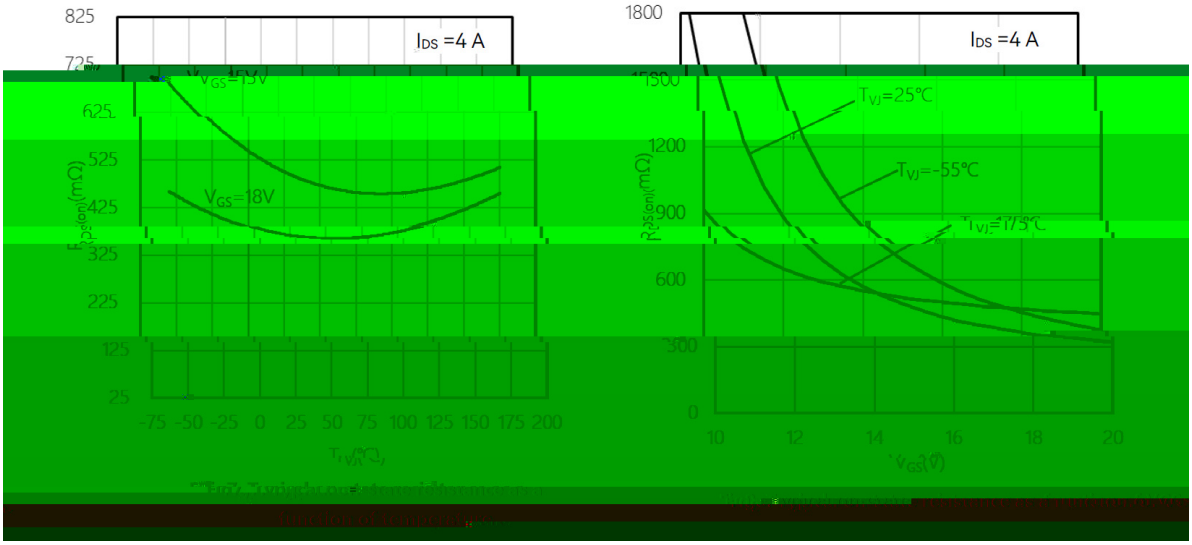
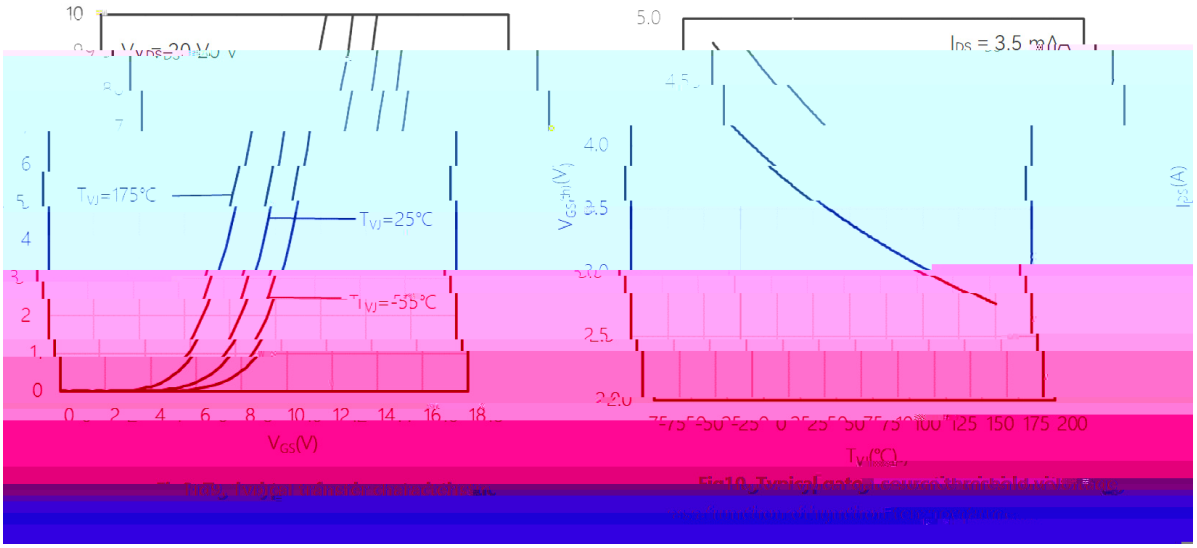


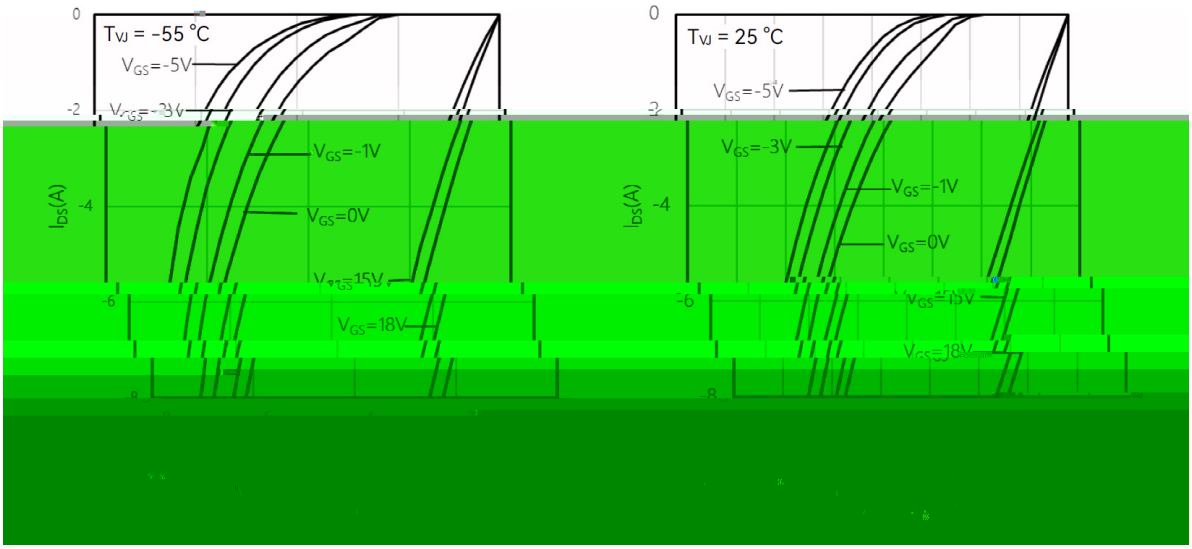
Fig5. Typical output characteristic

Fig6. Typical on-state resistance as a function of drain current

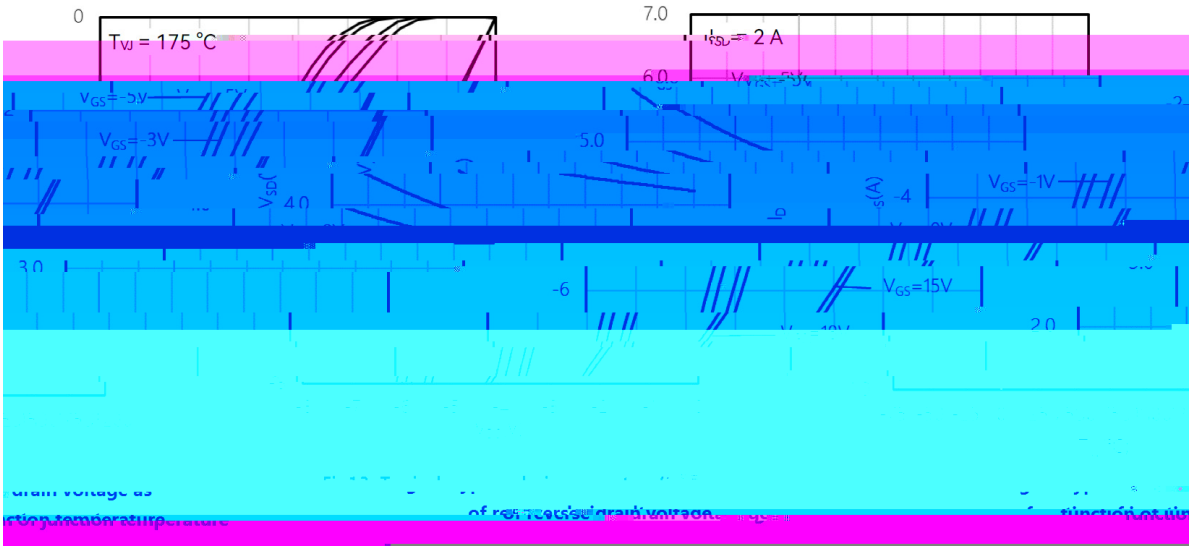
/ Electrical Characteristic Curve

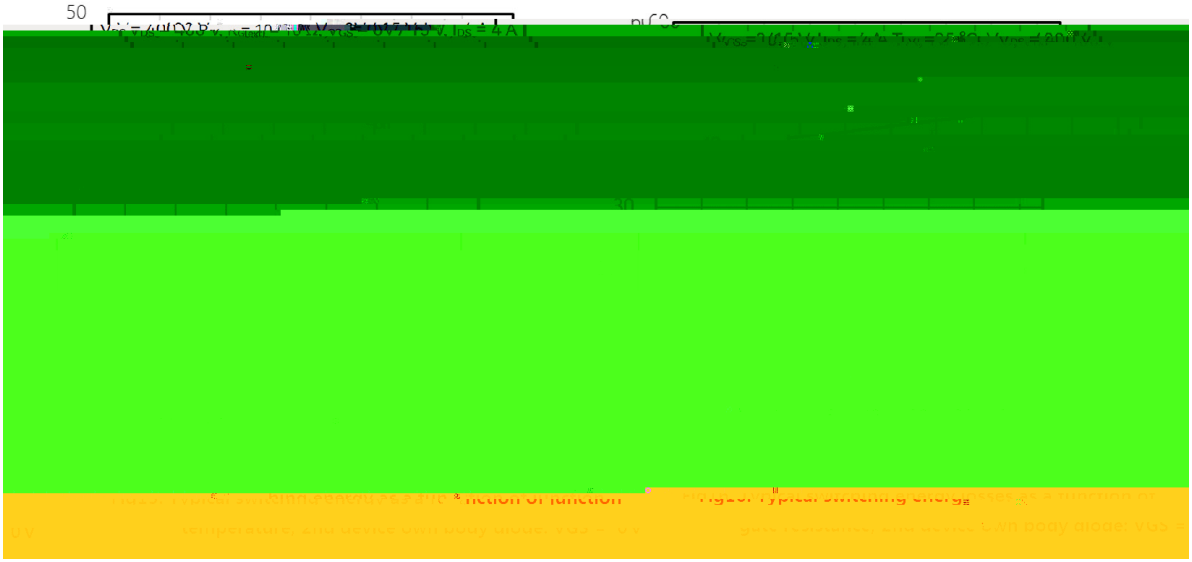


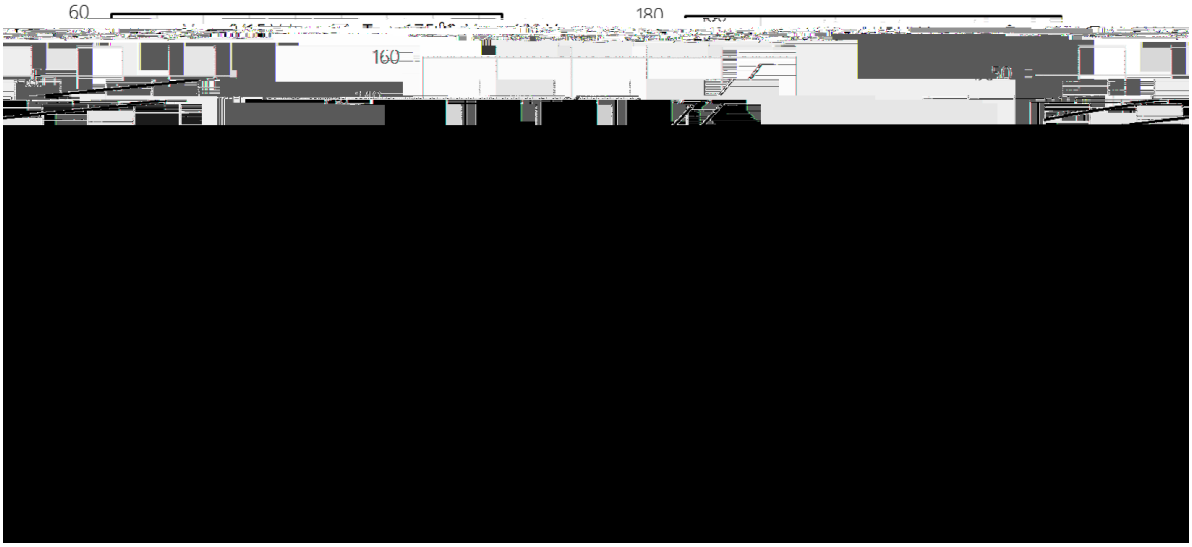




/ ElectricalCharacteristicCurve







/ Electrical Characteristic Curve

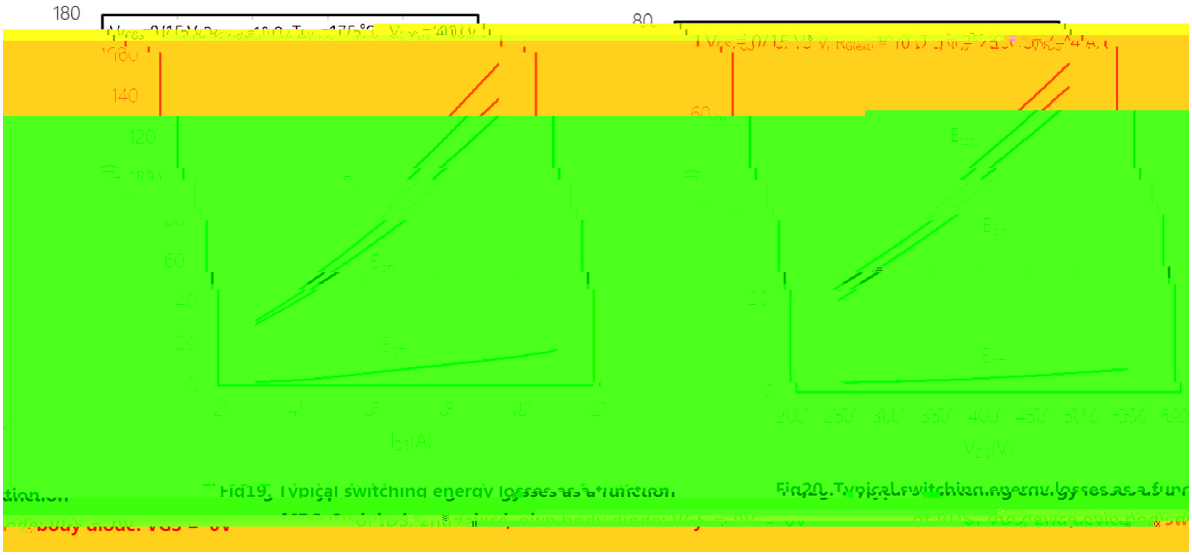
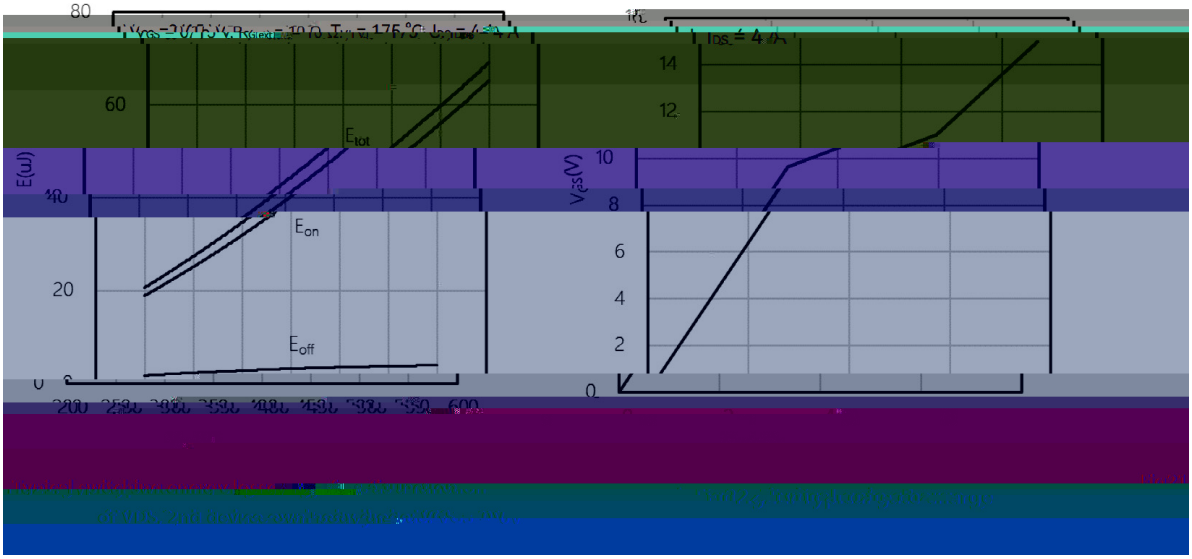


Fig19. Typical switching energy losses as a function

Fig20. Typical switching energy losses as a fun



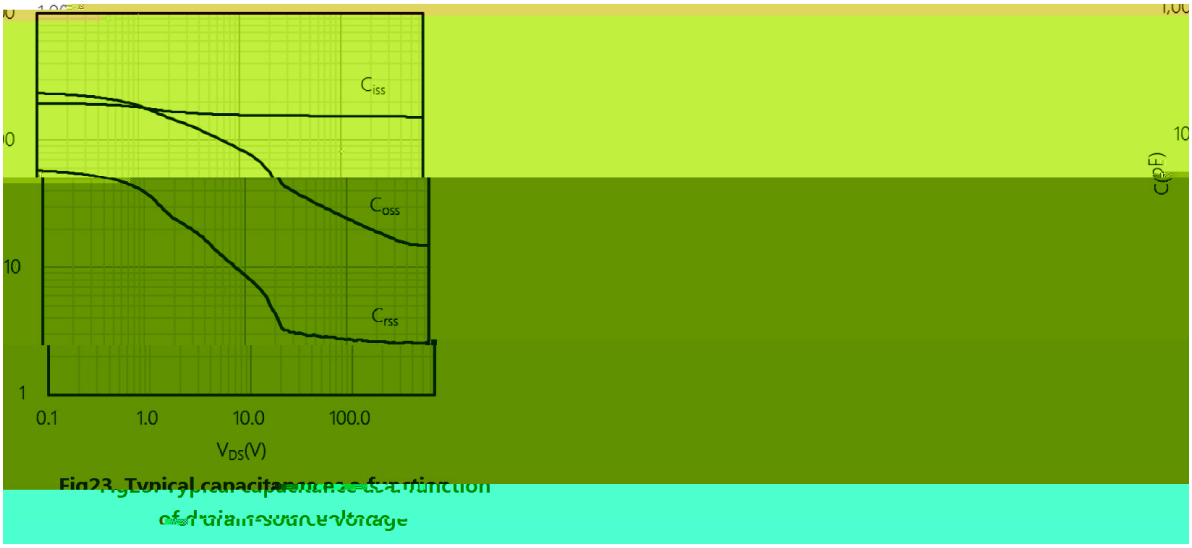
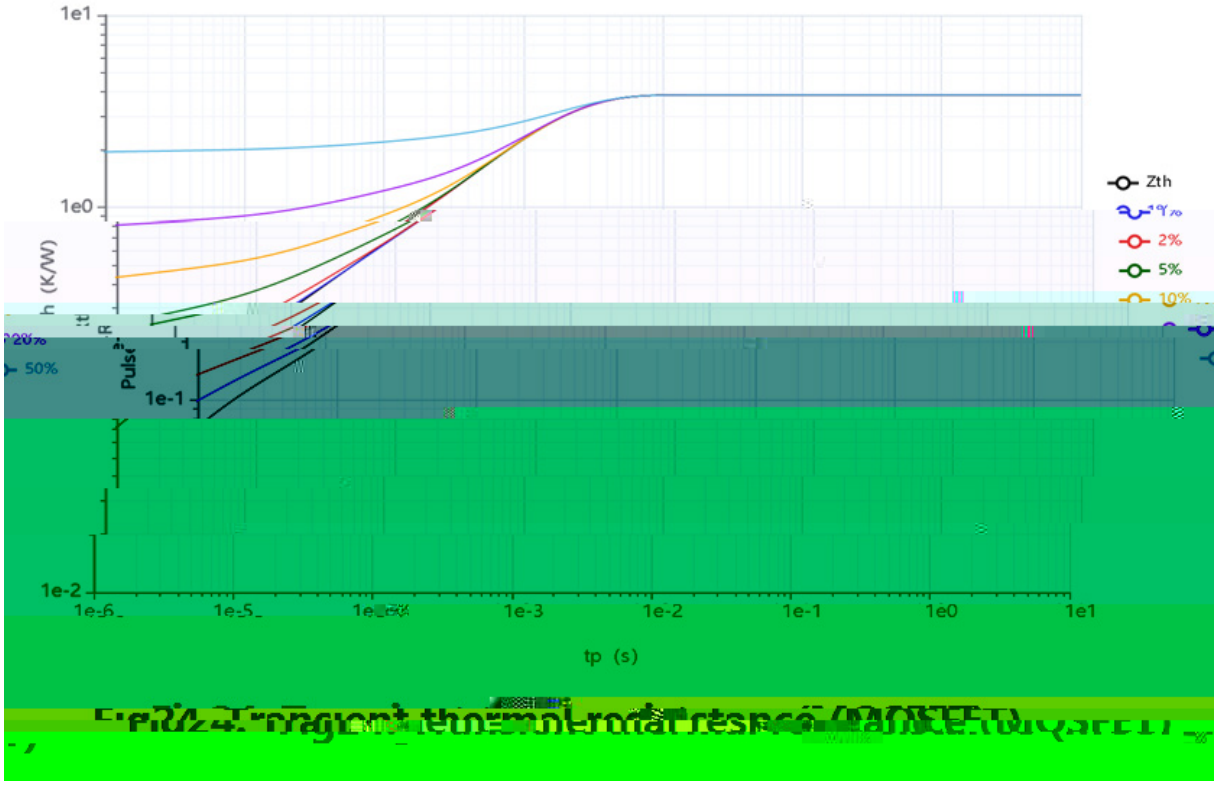


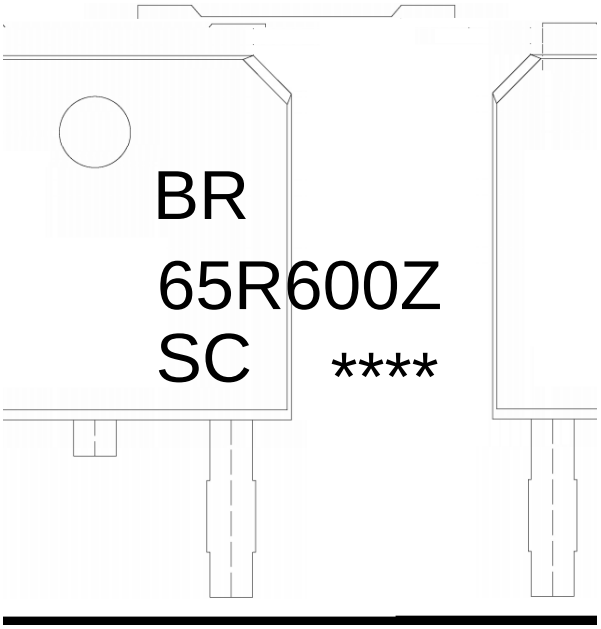
Fig23. Typical capacitance as a function
of drain-source voltage

/ Electrical Characteristic Curve



BRSC65R600ZDP

/ Marking Instructions



BR

65R600Z

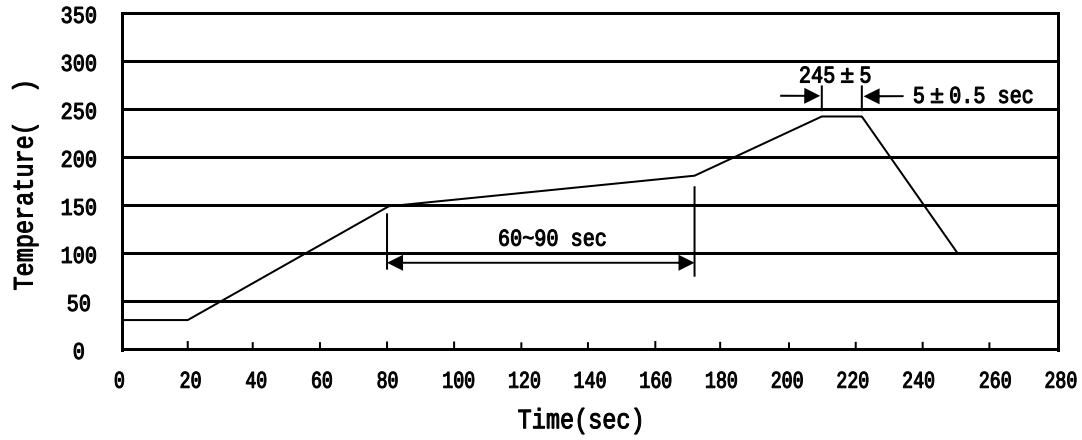
SC

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Note:

BR:	Company Code
65R600Z:	Product Type Code
SC:	SiC
****:	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	Units					Dimension		(unit mm³)
TO-252	2,500	2	5,000	6	30,000	13 ×16	360×360×50	380×335×366

/ TUBE

Package Type	Units					Dimension		(unit mm³)
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

/ Notices

All information provided in this document is subject to legal disclaimers.