

5 é / Descriptions

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

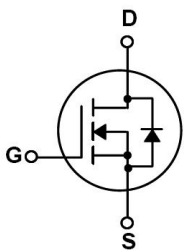
□ ª / Features

$V_{DS}=650V$ $I_D=7A$
 $R_{DS(on)}@15V$ "650m (Type.500m)
 $R_{DS(on)}@18V$ "600m (Type. 378m)

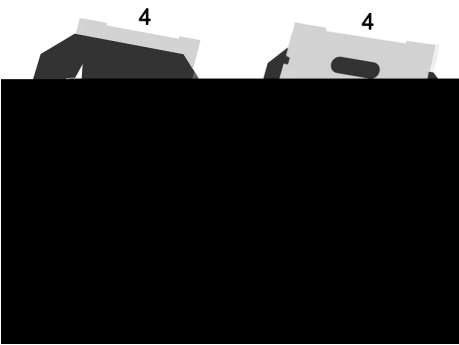
Đ ÷ / Applications

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

Ã W] Ô · / Equivalent Circuit



• Ô - æ / Pinning



PIN1 G PIN 2 D PIN 3 S PIN 4 D

, M V / Marking

See Marking Instructions.

BRSC65R600ZDP

Rev.B Jun.-2026



蓝箭电子
BLUE ROCKET ELECTRONICS

DATA SHEET

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Continuous DC Drain Current for $R_{th(j-c,typ.)}$, Limited by $T_{VJ(max)}$	$I_D(T_c=25^\circ C)$	7	A
	$I_D(T_c=100^\circ C)$	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 $R_{th(j-c,typ.)}$	$P_D(T_c=25^\circ C)$	39	W
Operating and Storage Temperature Range	T_{VJ}, T_{STG}	-55 to 175	$^\circ C$
MOSFET/Body Diode Junction-Case Thermal Resistance	$R_{th(j-c)}$	3.85	$^\circ C/W$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ I_D				

4 × 2 d / Electrical Characteristics(Tc=25 ;)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn-On Delay Time	$t_{d(on)}$	$V_{GS}=0/15V$ $L=600\text{ H}$ $V_{DD}=400V$ $I_D=4A$ $R_g=10\text{ }\Omega$		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 íOn Switching Loss	E_{on}			41.2		J
Turn íOff Switching Loss	E_{off}			3.1		
Total Switching Energy	E_{tot}			44.3		
Gate resistance	R_g	$V_{AC}=25mV$ $f=1MHz$		35		
Input Capacitance	C_{iss}	$V_{DS}=400V$ $V_{GS}=0V$ $f=1MHz$		149		pF
Output Capacitance	C_{oss}			11		
Reverse Transfer Capacitance	C_{rss}			0.8		
Total Gate Charge	Q_g	$V_{GS}=0/15V,$ $V_{DS}=400V,$ $I_D=4A$		6.7		nC
Gate Source Charge	Q_{gs}			3.0		
Gate Drain Charge	Q_{gd}			1.1		

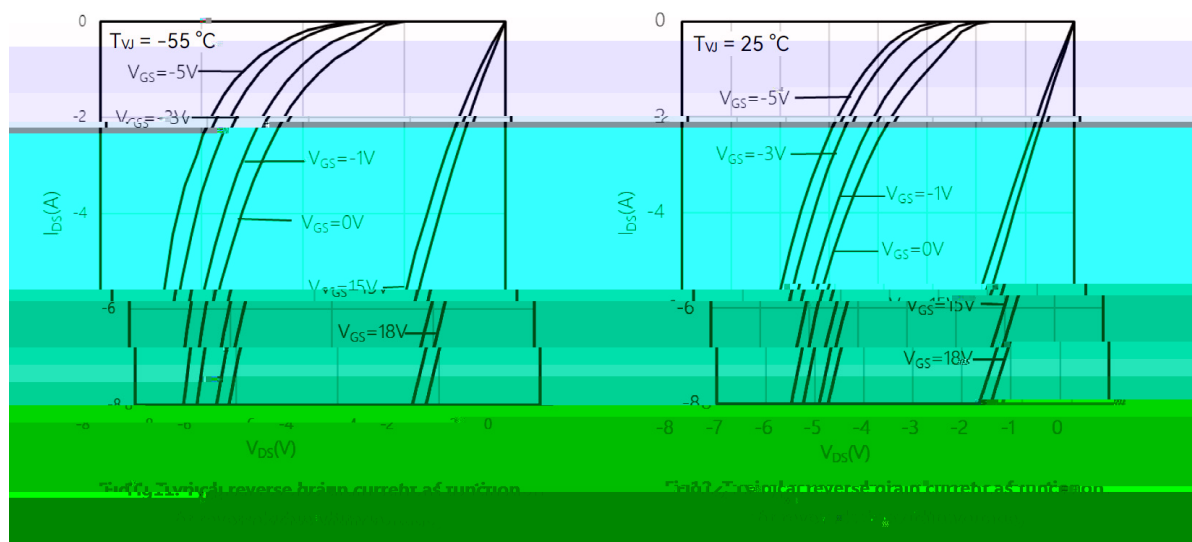
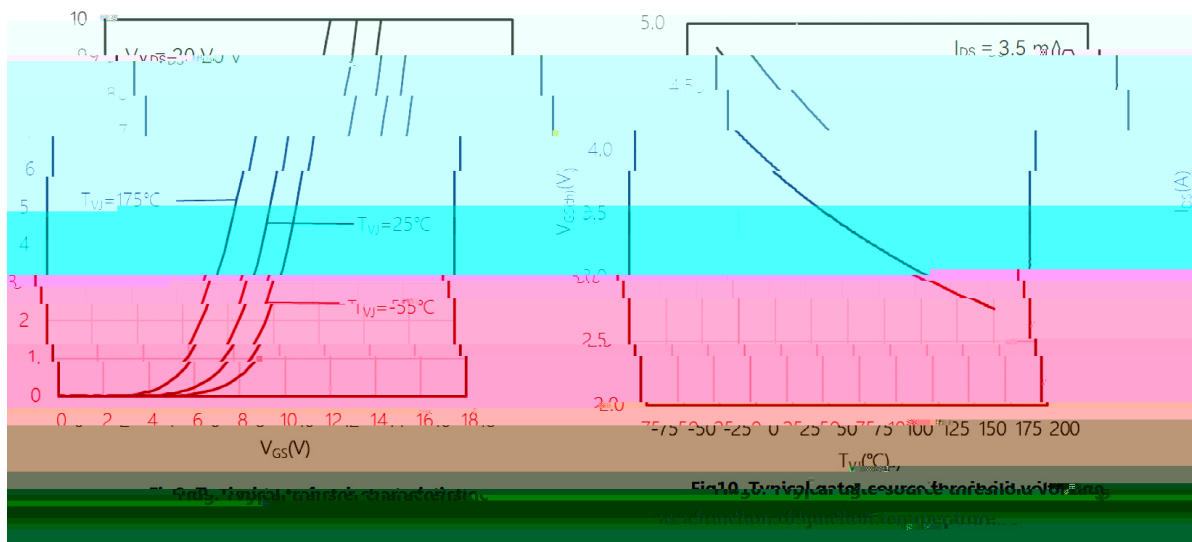
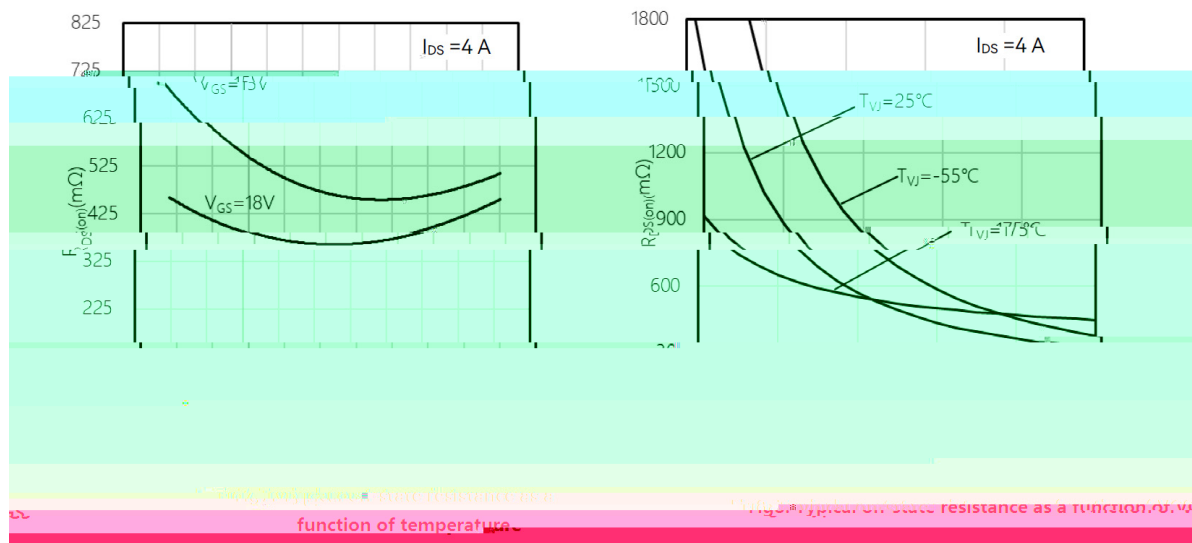
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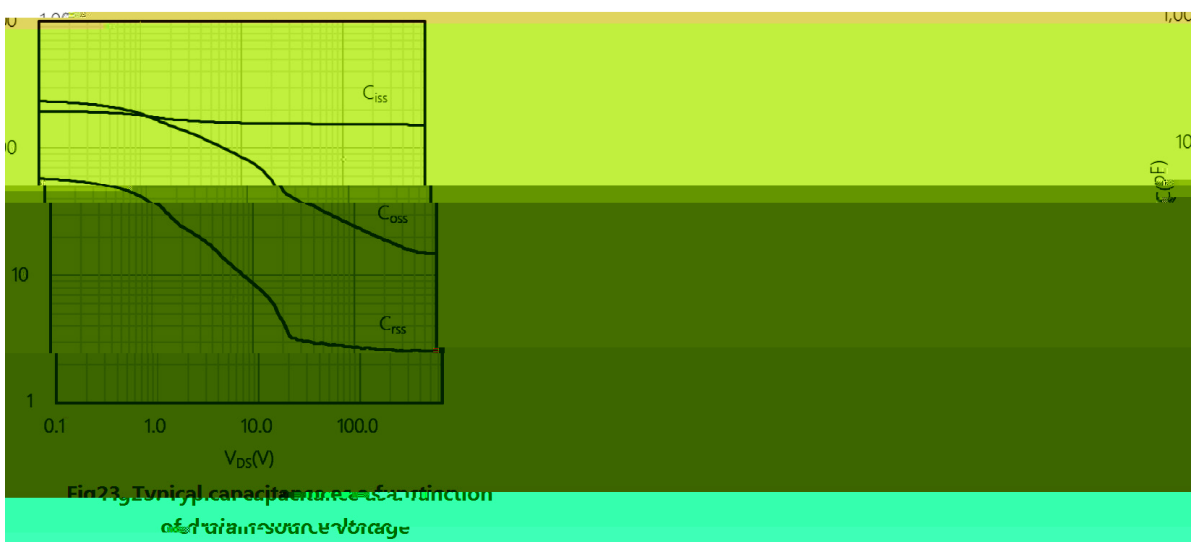
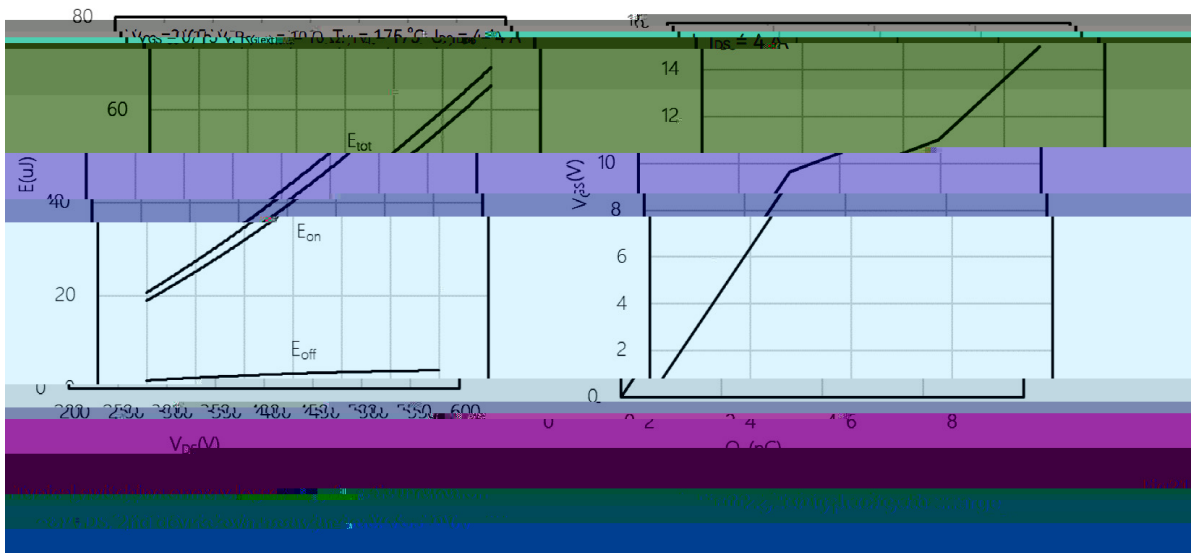
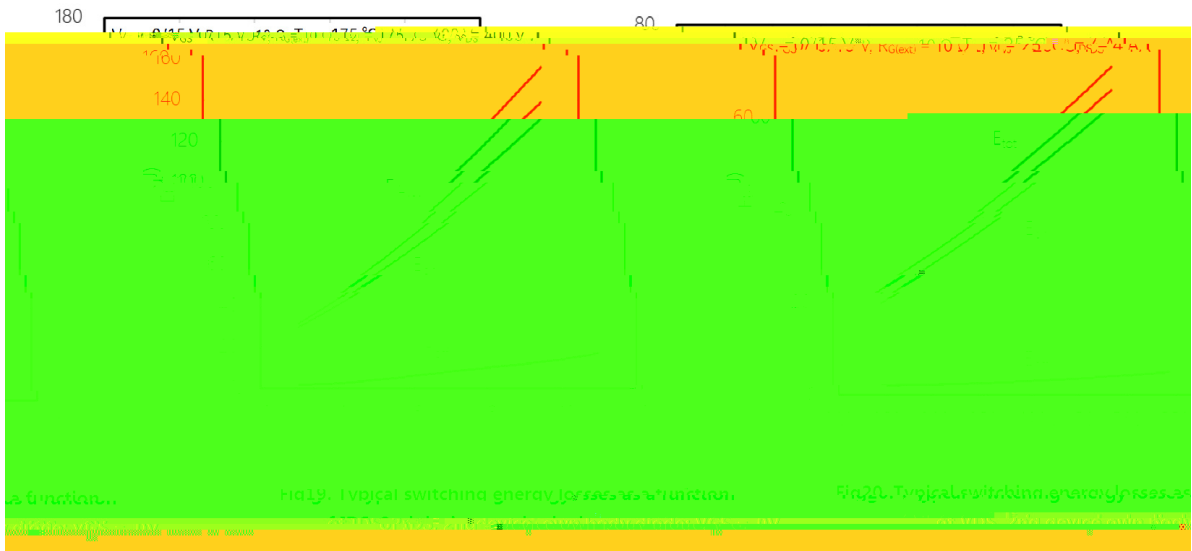


DATA SHEET

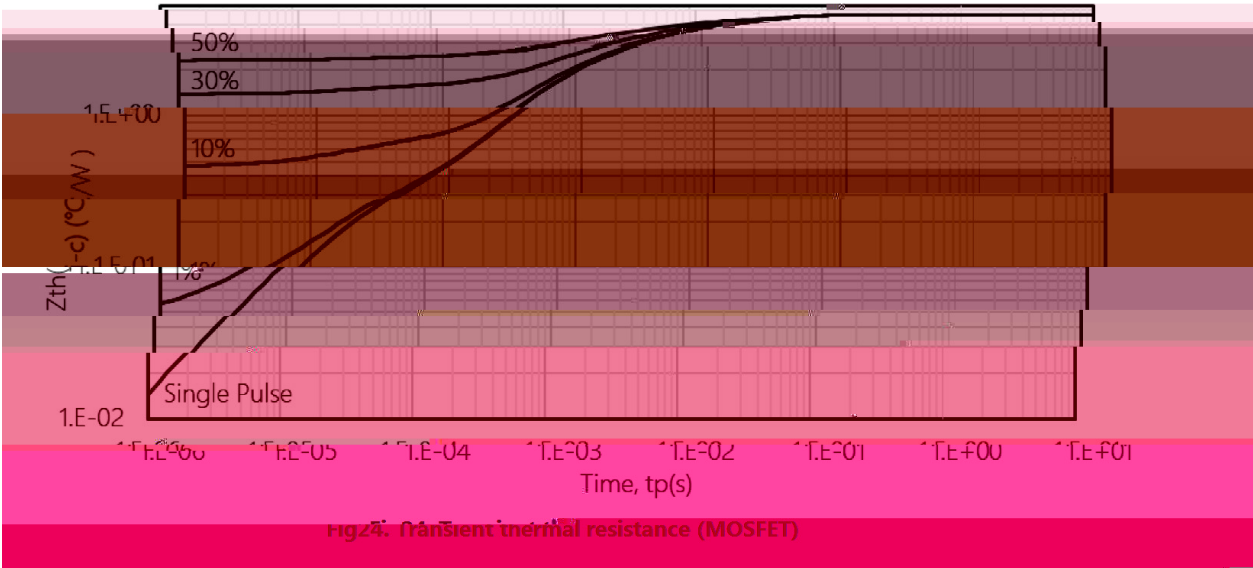
Electrical Characteristic Curve



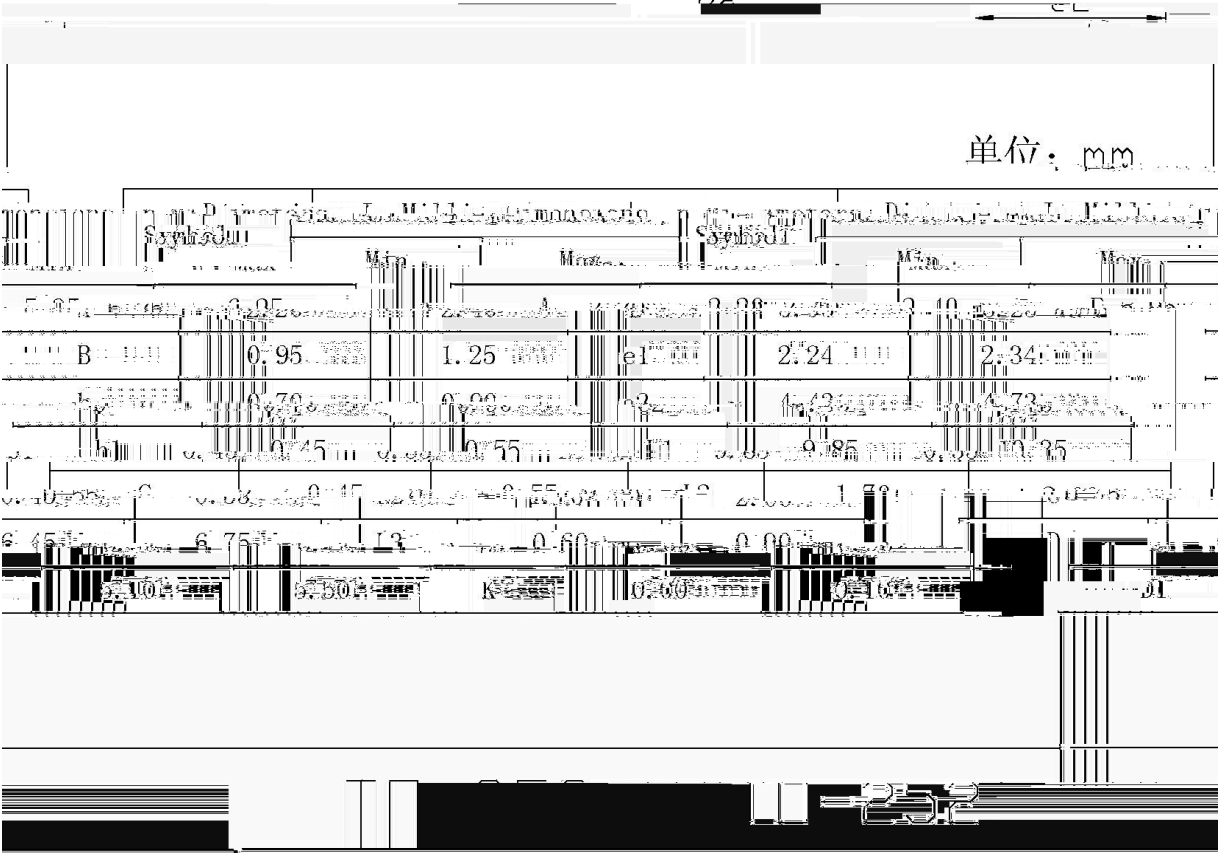
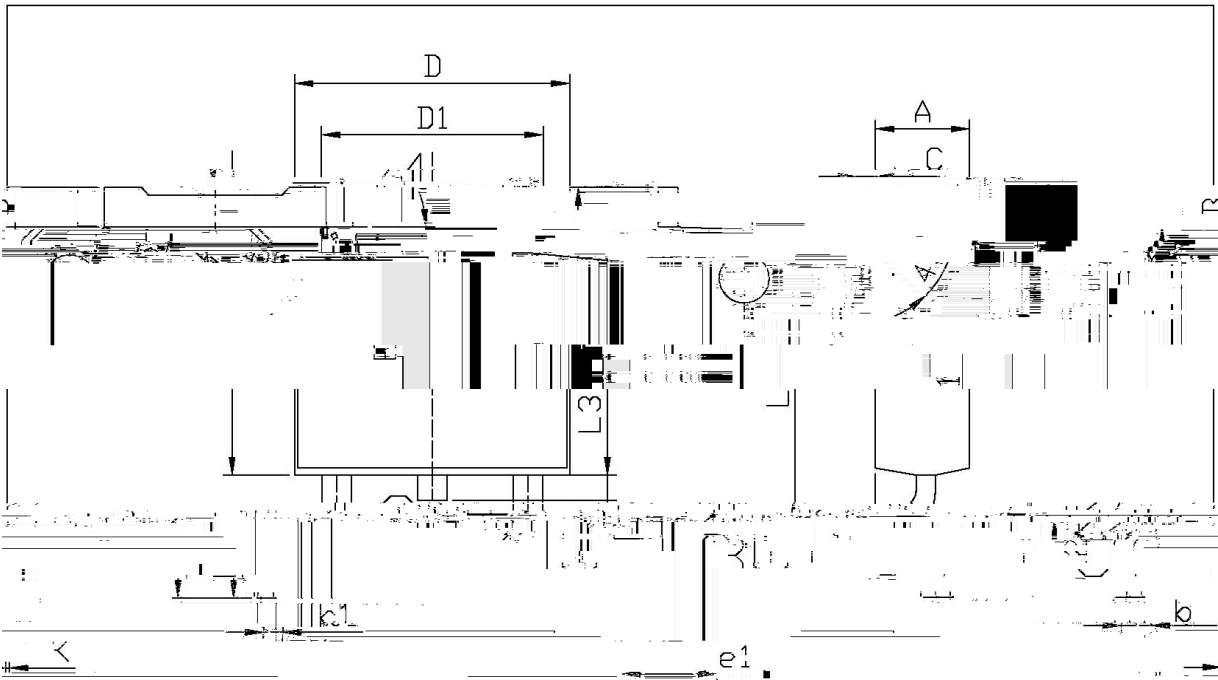
电 压 • 电 流 / Electrical Characteristic Curve



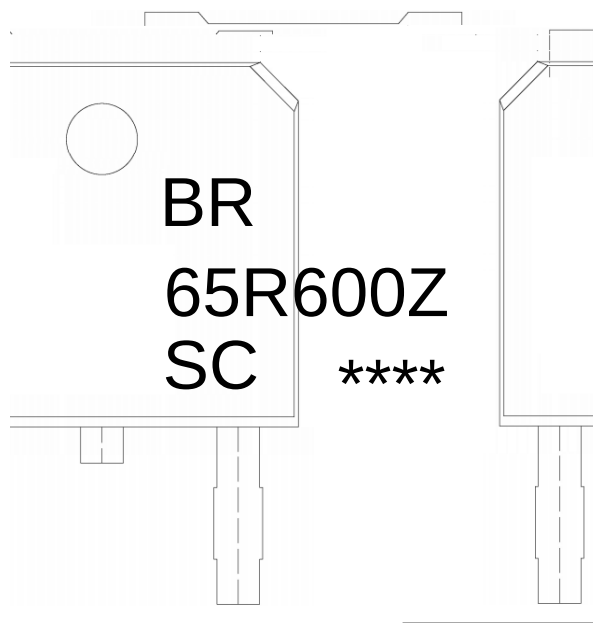
Electrical Characteristic Curve



Ø □ =) ☎ / Package Dimensions



, M y f / Marking Instructions



BR

98U933]

VF

Note:

BR: Company Code

65R600Z: Product Type Code

SC: SiC

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



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Note:

- | | | | |
|---|----------------------|-------------------------|---|
| 1 | 150 180% | 60 90sec; | 1.Preheating:150~180%, Time:60~90sec. |
| 2 | 245 ^{±2} 5% | 5 ^{±2} 0.5sec; | 2.Peak Temp.:245 ^{±2} 5%, Duration:5 ^{±2} 0.5sec. |
| 3 | 2 10%/sec. | | 3. Cooling Speed: 2~10%/sec. |

ÂD /Că p⁻ »] / Resistance to Soldering Heat Test Conditions

260^{±2} 5% 10^{±2} 1 sec. Temp.:260±5 Time:10±1 sec

G P á / Packaging SPEC.

/ REEL

Package Type 7>û ~ E	Units ;>û H					Dimension ;>û p . (unit /mm ³)		
	Units/Reel /-	Reels/Inner Box -- /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Reel	Inner Box	Outer Boxç
TO-252	2,500	2	5,000	6	30,000	13 s ×16	360×360×50	380×335×366

/ TUBE

Package Type 7>û ~ E	Units ;>û H					Dimension ;>û p . (unit /mm ³)		
	Units/Tube /•1×	Tubes/Inner Box •1× /-	Units/Inner Box /-	Inner Boxes/Outer Box - /1ç	Units/Outer Box /1ç	Tube•1×	Inner Box	Outer Boxç