

Rev.B Jul.-2026

TO-220F SiC N MOS

SiC N-CHANNEL MOSFET in a TO-220F Plastic Package.

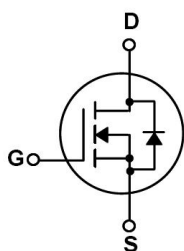
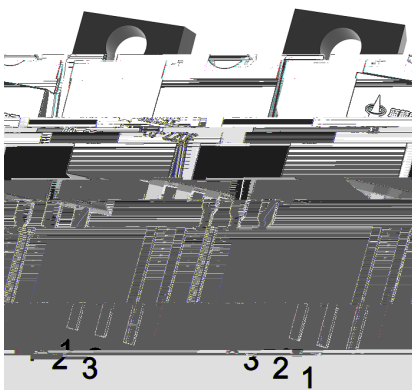
$V_{DS}=800V$ $I_D=20A$

$R_{DS(on)}@15V \leq 208m\Omega$ (Type.160m Ω)

$R_{DS(on)}@18V \leq 180m\Omega$ (Type.124m Ω)

LED PD PC

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



PIN1 G

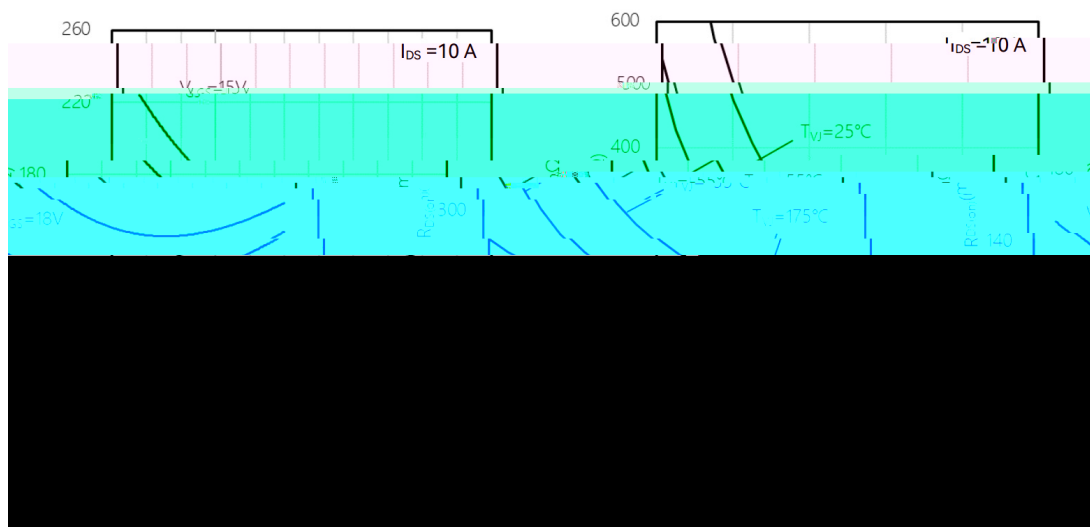
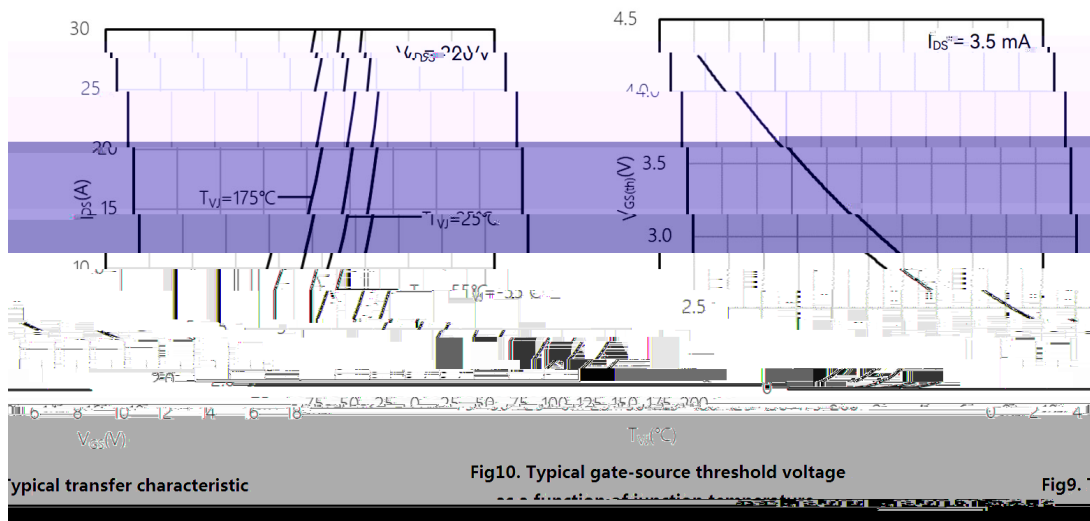
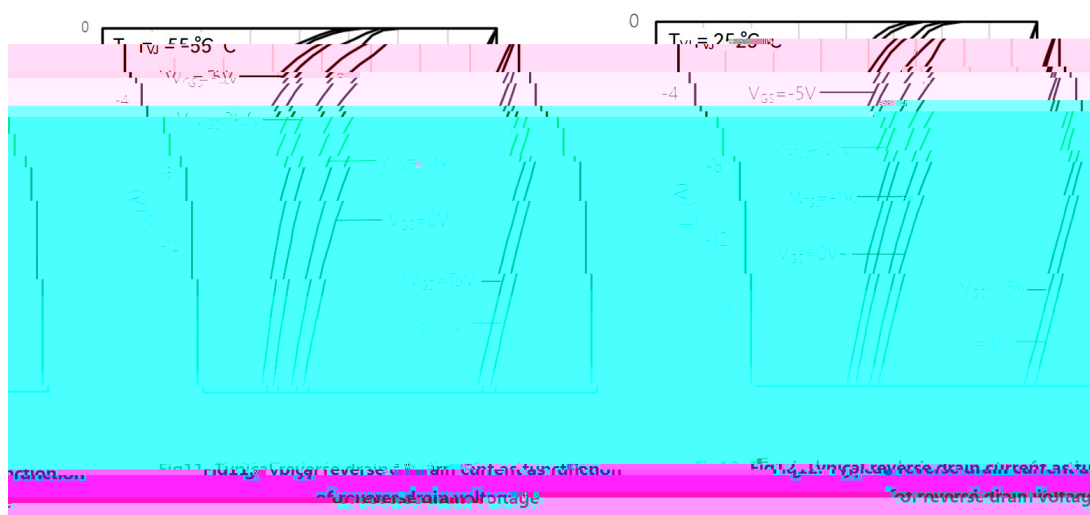
PIN 2 D

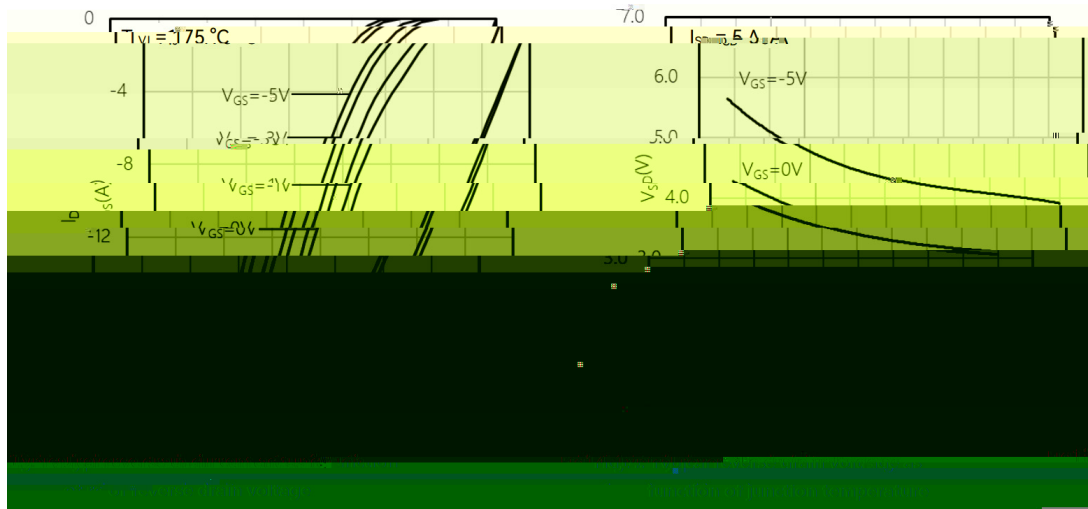
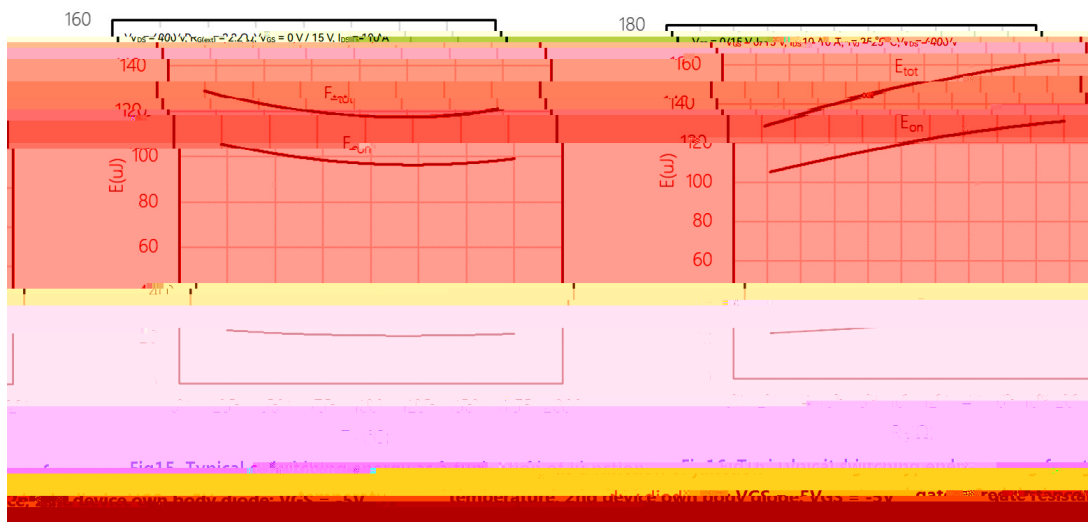
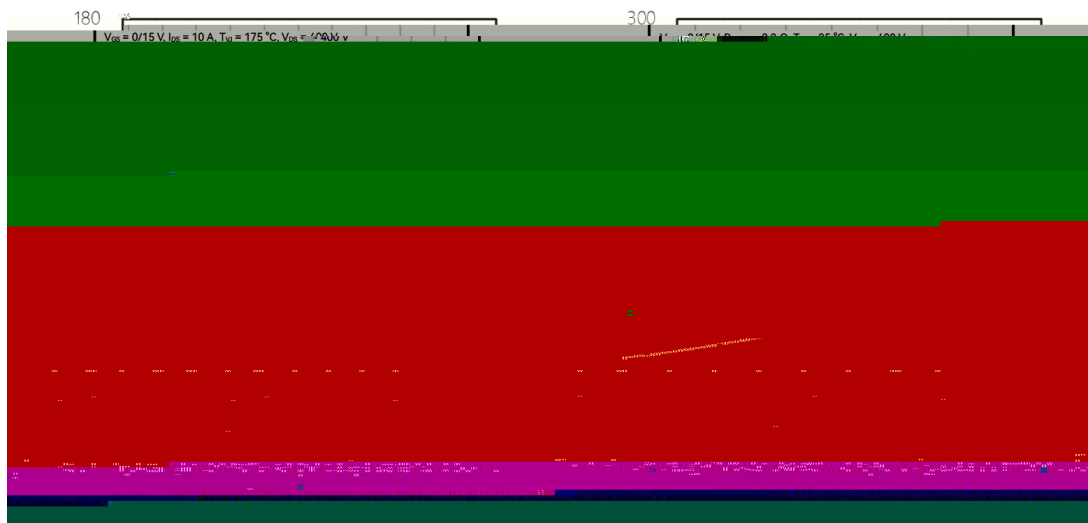
PIN 3 S

See Marking Instructions.

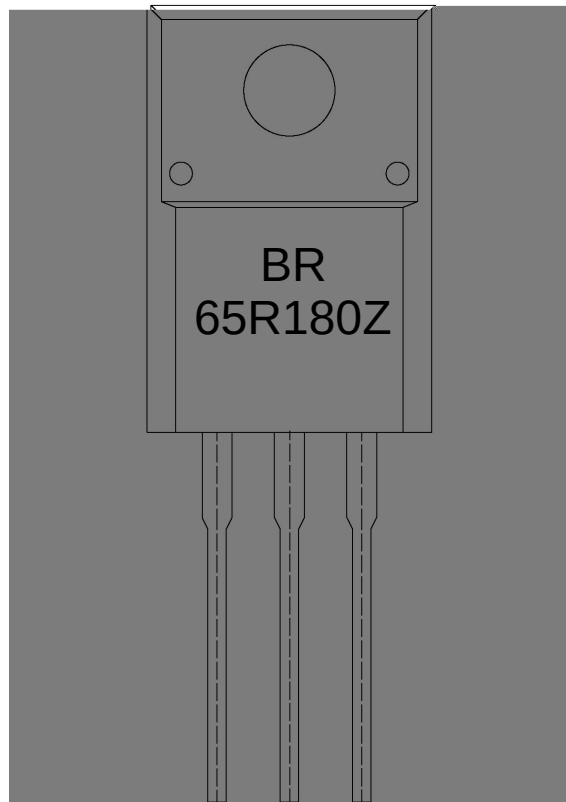
Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	800	V
Continuous DC Drain Current for $R_{th(j-c,typ.)}$, Limited by $T_{VJ(max)}$	$I_D(T_c=25^\circ C)$	20	A
	$I_D(T_c=100^\circ C)$	14.4	A
Peak Drain Current, tp Limited by $T_{VJ(max)}$	I_{DM}	34.5	A
Gate-Source Max Voltage	$V_{GS,max}$	-10/+22	V
Gate-Source Operate Voltage	$V_{GS,op}$	0/+15	V
Single Pulse Avalanche Energy	E_{AS}	28	mJ
Power Dissipation or $R_{th(j-c,typ.)}$	$P_D(T_c=25^\circ C)$	35	W
Operating and Storage Temperature Range	T_{VJ}, T_{STG}	-55 to 175	
MOSFET/Body Diode Junction-Case Thermal Resistance	$R_{th(j-c)}$	4.3	/W

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS}=0V$ $I_D=1mA$	800			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=3.5mA$	3		5	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS}=800V$ $V_{GS}=0V$		0.1	20	μA
Gate-Source Leakage Current	I_{GSS}	$V_{GS}=22V$ $V_{DS}=0V$			250	nA
Source-Gate Leakage Current	I_{SGS}	$V_{GS}=-10V$ $V_{DS}=0V$			250	nA
Drain-Source On-State Resistance	$R_{DS(on)}$	$V_{GS}=15V$ $I_D=10A$		160	208	m Ω
		$V_{GS}=15V$ $I_D=10A$ $T_{VJ}=175$		164		
		$V_{GS}=18V$ $I_D=10A$		124	180	
		$V_{GS}=18V$ $I_D=10A$ $T_{VJ}=175$		150		
Body Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=5A$		3.5		V
Continuous DC Source Current	I_S			17		A
Peak Reverse Drain Current,	I_{SM}			32		A
Reverse Recovery Time	t_{rr}	$V_{GS} = 0V, I_{SD}=10A, V_R=400V, di/dt=1.5kA/us$		6.9		ns
Reverse Recovery Charge	Q_{rr}			26		nC
Peak Reverse Recovery Current	I_{rrm}			4.8		A
Reverse Recovery Energy	E_{rr}			0.24		μJ









BR

65R180Z

SC

Note:

BR: Company Code

65R180Z: Product Type Code

SC: SiC

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

