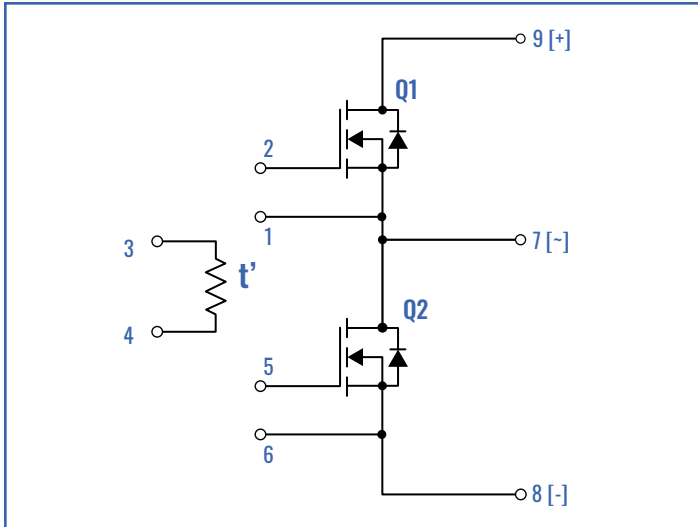


$$V_{DS} = 1200V$$

$$R_{DSon} = 32m\Omega$$

$$I_D = 50A @ T_c = 25^\circ C$$



PIN CONNECTIONS

PIN	DESCRIPTION
1	S1
2	G1
3	Temp. Monitoring
4	Temp. Monitoring
5	G2
6	S2
7	AC
8	N
9	P

FEATURES & BENEFITS

- SUPERIOR SYSTEM EFFICIENCY DUE TO LOW SWITCHING AND CONDUCTIONS LOSSES OF SiC
- OUTSTANDING POWER CONVERSION EFFICIENCY AT HIGH FREQUENCY OPERATION
- HIGH SPEED SWITCHING W/ LOW CAPACITANCE
- REDUCED PARASITIC INDUCTANCE AND CAPACITANCE
- REAL KELVIN SOURCE CONNECTION FOR STABLE GATE DRIVE
- ISOLATED BACKSIDE FOR DIRECT MOUNT TO HEATSINK
- ALN SUBSTRATE AND CUMO BASEPLATE FOR THERMAL CONDUCTIVITY
- HIGH JUNCTION TEMPERATURE OPERATION
- LOW JUNCTION TO CASE THERMAL RESISTANCE
- REDUCED THERMAL REQUIREMENTS AND SYSTEM COST
- INTEGRATED NTC TEMPERATURE SENSOR
- RUGGED MOUNTING DUE TO INTEGRATED MOUNTING BUSHINGS
- LOW PROFILE COMPACT PACKAGE



ABSOLUTE MAXIMUM RATINGS (T_c = 25°C)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	VALUE	UNIT
V _{DS,max}	Drain-Source Voltage	V _{GS} = 0V, I _D = 19μA	1200	V
V _{GS,max}	Gate-Source Voltage (Max.)	Absolute maximum values	-8/+19	V
V _{GS,op}	Gate-Source Voltage	Recommended operational values	-4/+15	V
I _D	Continuous Drain Current	V _{GS} = 15V	50	A
I _{D,pulse}	Pulsed Drain Current	Pulse Width t _p Limited by T _{Jmax}	160	A
P _D	Maximum Power Dissipation		176	W
T _J , T _{STG}	Junction Temperature, Operating and Storage		-55 to +175	°C

ELECTRICAL CHARACTERISTICS (T_c = 25°C)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{(BR)DSS}	Drain-Source Breakdown Voltage	V _{GS} < 0V, I _D = 19μA	1200			V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _{DS} = 11mA, T _a = -55°C		3.2		V
		V _{DS} = V _{GS} , I _{DS} = 11mA, T _a = +25°C	1.8	2.5	3.6	
		V _{DS} = V _{GS} , I _{DS} = 11mA, T _a = +175°C		2.0		
I _{DSS}	Off-State Drain Current	V _{GS} = 0V, V _{DS} = 1200V		1	50	μA
I _{GSS}	Gate-Source Leakage Current	V _{GS} = +15V, V _{DS} = 0V		10	250	nA
R _{DS(on)}	Drain-Source On-state Resistance	V _{GS} = 15V, I _D = 40A, T _J = 25°C		33		mΩ
		V _{GS} = 15V, I _D = 40A, T _J = 175°C		46		
g _{fs}	Transconductance	V _{DS} = 20V, I _{DS} = 40A, T _a = 25°C		29		S
		V _{DS} = 20V, I _{DS} = 40A, T _a = 175°C		23		
C _{iss} *	Input Capacitance	V _{GS} = 0V, V _{DS} = 1000V, f = 100kHz, Vac = 25mV		3357		pF
C _{oss} *	Output Capacitance			129		pF
C _{fss} *	Reverse Transfer Capacitance			8		pF

BODY DIODE RATINGS AND CHARACTERISTICS (T_c = 25°C)

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{SD}	Diode Forward Voltage	V _{GS} = 0V		4.25		V
t _{rr}	Reverse Recovery Time			27		nS
Q _{rr}	Reverse Recovery Charge			478		nC
I _{rrm}	Peak Reverse Recovery Current	PW < 10μS, Duty Cycle < 1%, Non-repetitive		27		A

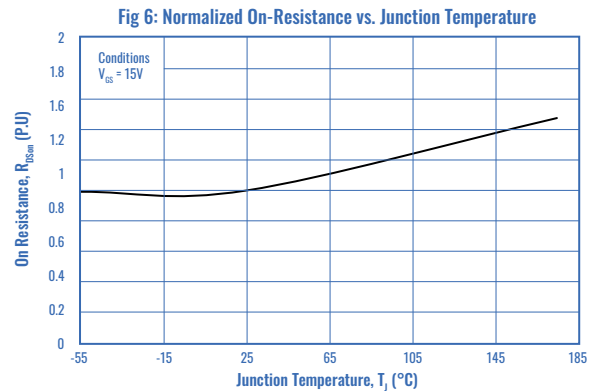
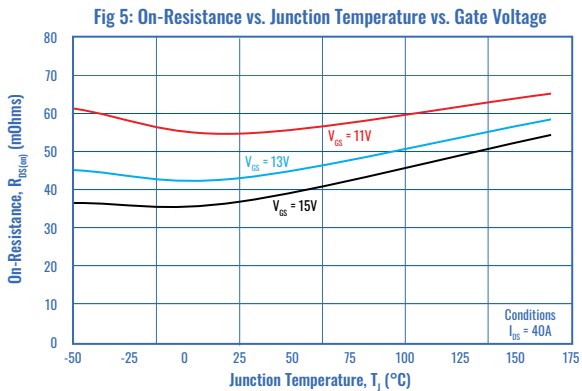
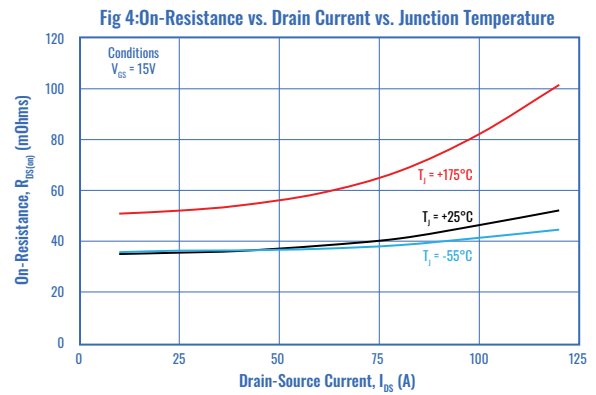
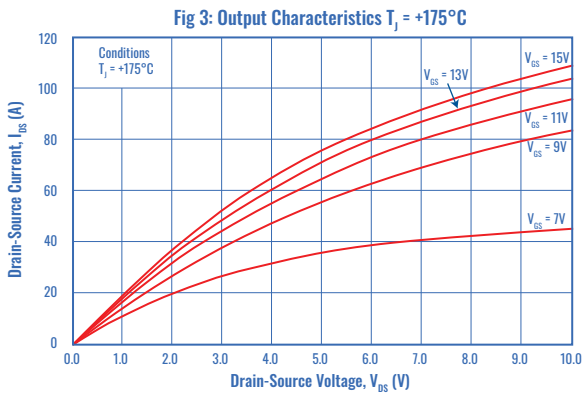
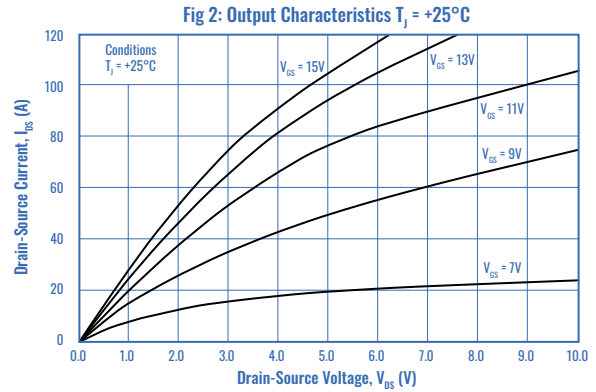
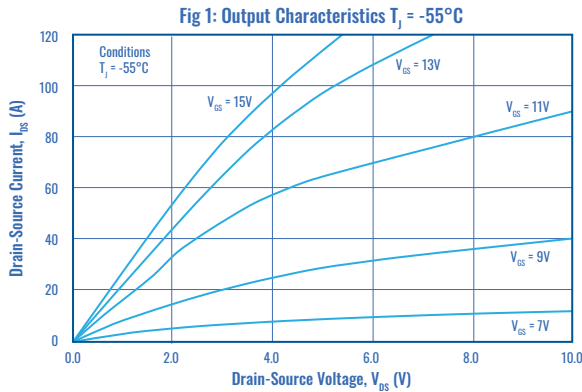
THERMAL RESISTANCE

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
R _{thJC}	Junction-to-Case				0.4	°C/W
R _{thCS}	Case-to-sink			0.21		°C/W
R _{thJA}	Junction-to-Ambient				40	°C/W

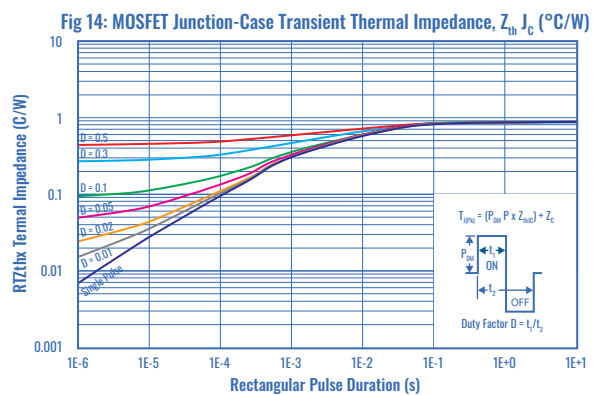
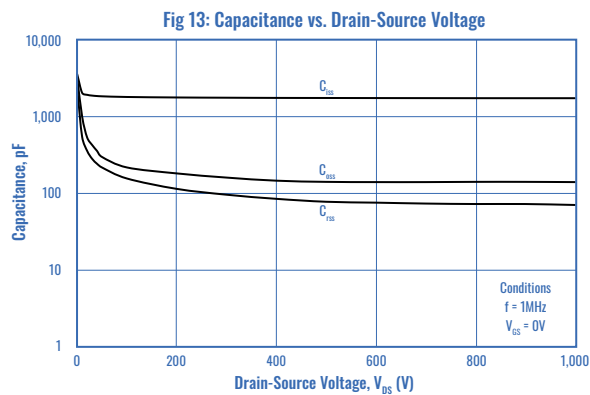
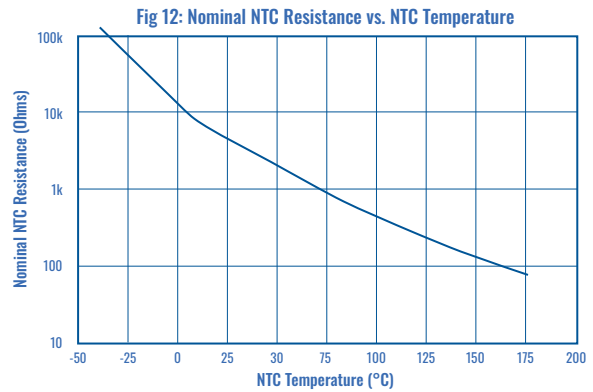
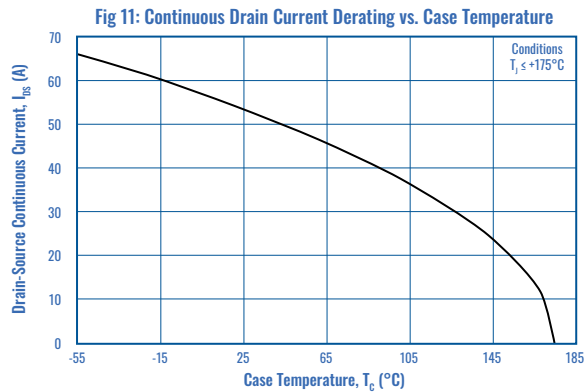
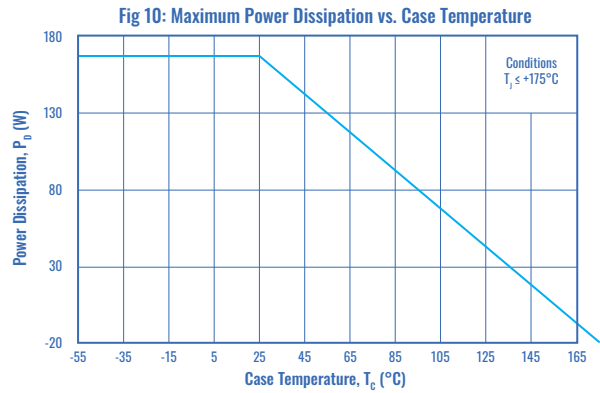
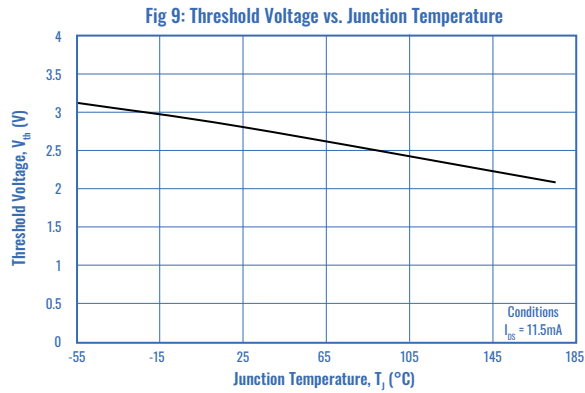
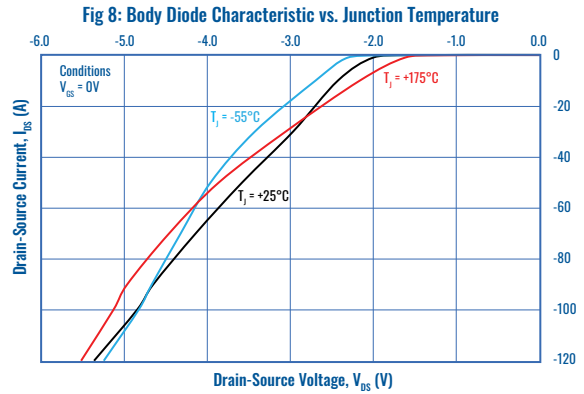
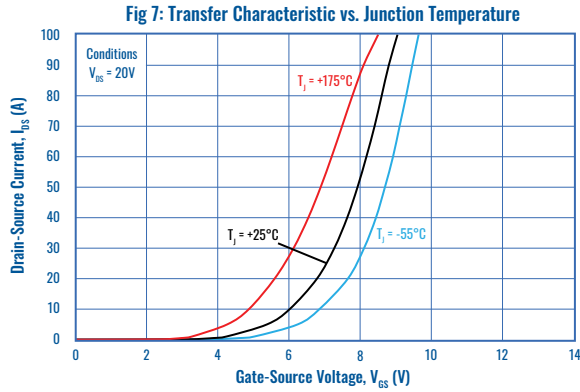
TEMPERATURE SENSOR NTC

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT
R_{25}	Resistance @ 25°C		4.7		$k\Omega$
$\Delta R_{25}/R_{25}$	Resistance tolerance		±5		%
$\Delta B/B$	Beta tolerance		±3		%
$B_{25/100}$	Beta Constant		4110		K

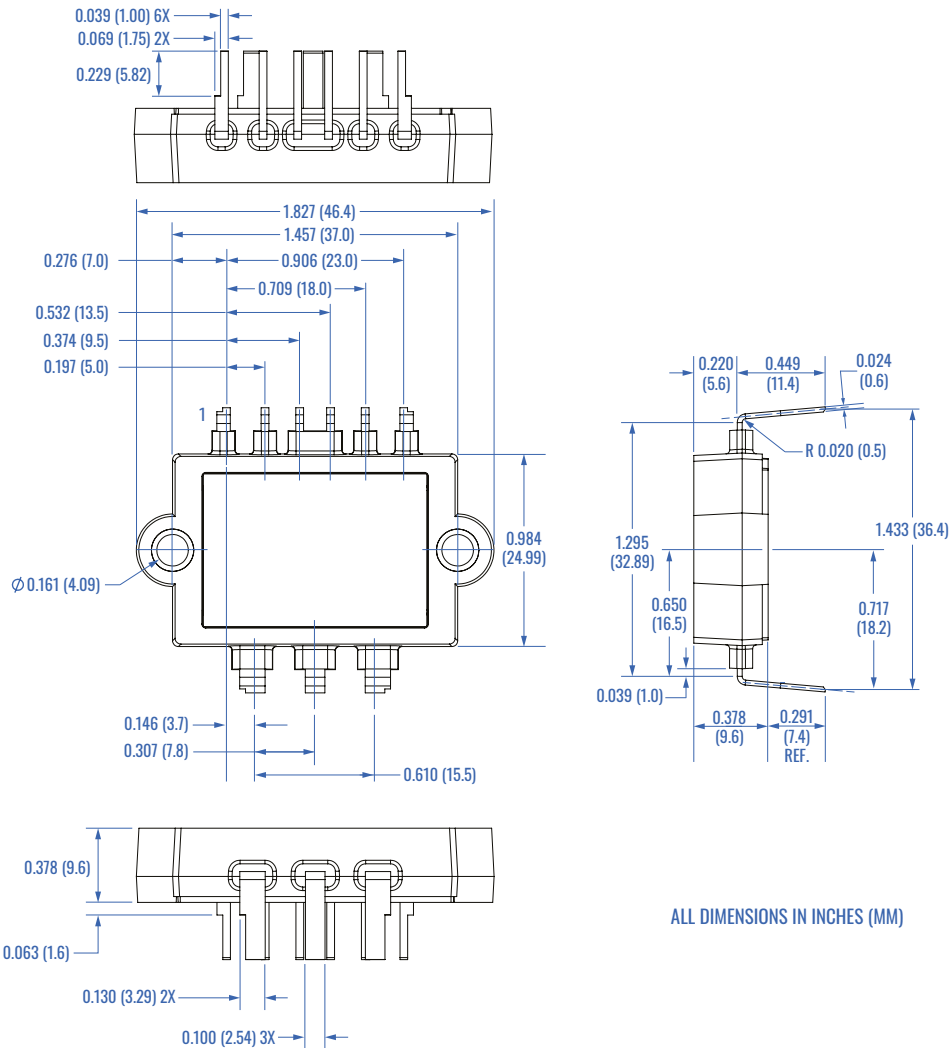
CHARACTERISTICS



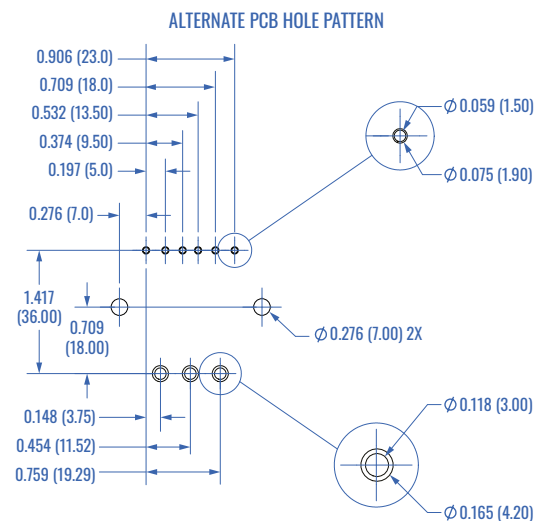
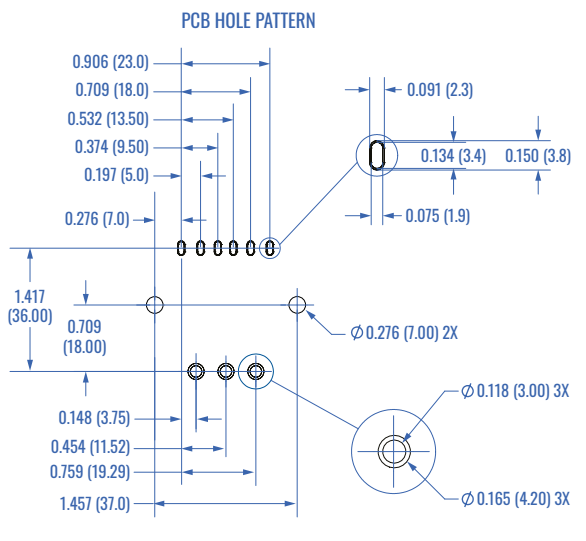
CHARACTERISTICS, CONT.



PACKAGE OUTLINE - dimensions in inches (mm)



ALL DIMENSIONS IN INCHES (MM)



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