

isc N-Channel MOSFET Transistor

SPD50N03S2,ISPD50N03S2

• FEATURES

- Static drain-source on-resistance:
 $R_{DS(on)} \leq 7.3m\Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

• DESCRIPTION

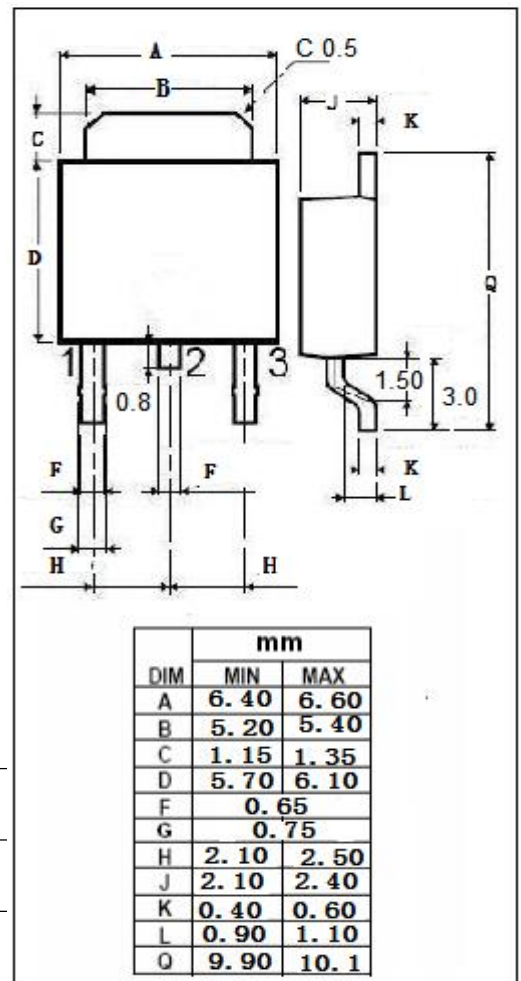
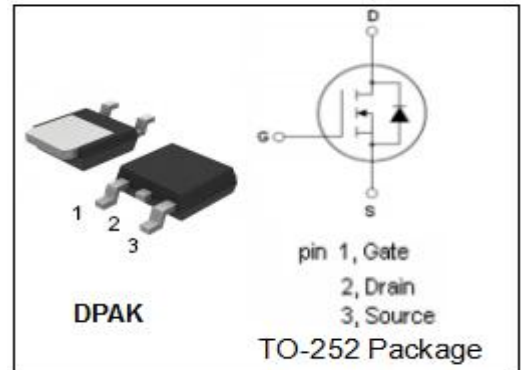
- Superior thermal resistance

• ABSOLUTE MAXIMUM RATINGS($T_a=25^\circ\text{C}$)

SYMBOL	PARAMETER	VALUE	UNIT
V_{DS}	Drain-Source Voltage	30	V
V_{GS}	Gate-Source Voltage	± 20	V
I_D	Drain Current-Continuous	50	A
I_{DM}	Drain Current-Single Pulsed	200	A
P_D	Total Dissipation @ $T_c=25^\circ\text{C}$	136	W
T_j	Max. Operating Junction Temperature	175	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~175	$^\circ\text{C}$

• THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Channel-to-case thermal resistance	1.1	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	100	$^\circ\text{C/W}$



isc N-Channel MOSFET Transistor**SPD50N03S2,ISPD50N03S2****ELECTRICAL CHARACTERISTICS** $T_c=25^{\circ}\text{C}$ unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
BV_{DSS}	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=1mA$	30			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=85\mu A$	2.1		4	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=50A$			7.3	$m\Omega$
I_{GSS}	Gate-Source Leakage Current	$V_{GS}=20V; V_{DS}=0V$			0.1	μA
I_{DSS}	Drain-Source Leakage Current	$V_{DS}=30V; V_{GS}=0V$			1	μA
V_{SD}	Diode forward voltage	$I_F=50A, V_{GS}=0V$			1.3	V

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