

## isc N-Channel MOSFET Transistor SPD03N50C3, ISPD03N50C3

### • FEATURES

- Static drain-source on-resistance:  
 $R_{DS(on)} \leq 1.4 \Omega$
- Enhancement mode:
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

### • DESCRIPTION

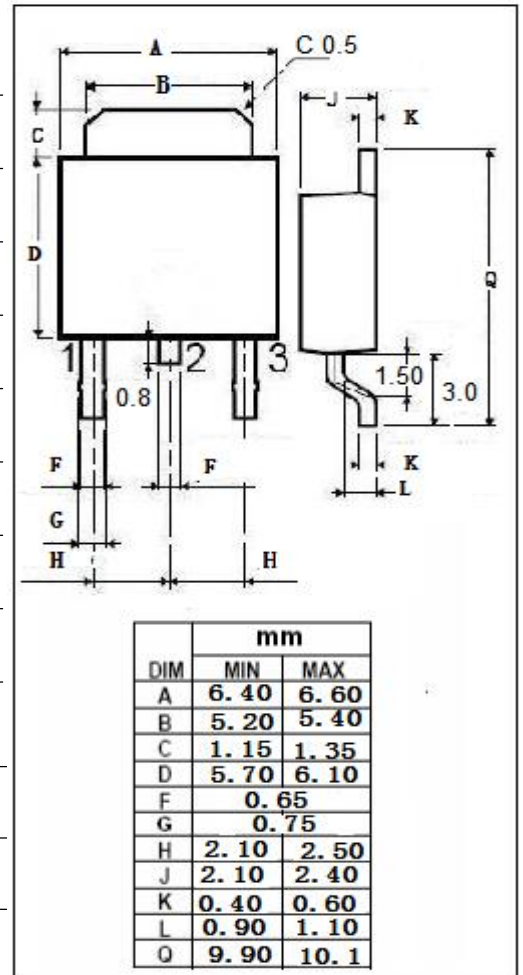
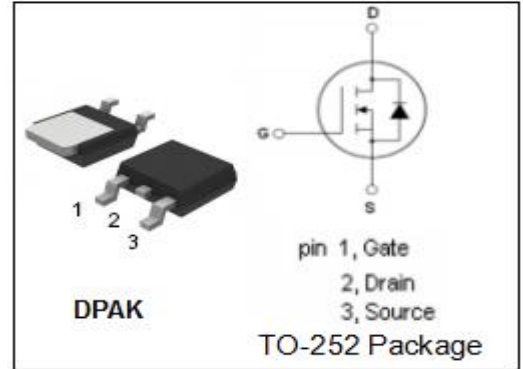
- Improved transconductance

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{DS}$	Drain-Source Voltage	560	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Drain Current-Continuous	3.2	A
$I_{DM}$	Drain Current-Single Pulsed	9.6	A
$P_D$	Total Dissipation @ $T_c=25^\circ\text{C}$	38	W
$T_j$	Max. Operating Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$

### • THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	MAX	UNIT
$R_{th(j-c)}$	Channel-to-case thermal resistance	3.3	$^\circ\text{C/W}$
$R_{th(j-a)}$	Channel-to-ambient thermal resistance	75	$^\circ\text{C/W}$



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### ELECTRICAL CHARACTERISTICS

$T_c=25^{\circ}\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP	MAX	UNIT
$BV_{DSS}$	Drain-Source Breakdown Voltage	$V_{GS}=0V; I_D=0.25mA$	500			V
$V_{GS(th)}$	Gate Threshold Voltage	$V_{DS}=V_{GS}; I_D=135\mu A$	2.1		3.9	V
$R_{DS(on)}$	Drain-Source On-Resistance	$V_{GS}=10V; I_D=2A$			1.4	$\Omega$
$I_{GSS}$	Gate-Source Leakage Current	$V_{GS}=20V$			0.1	$\mu A$
$I_{DSS}$	Drain-Source Leakage Current	$V_{DS}=500V; V_{GS}=0V$			1	$\mu A$
$V_{SD}$	Diode forward voltage	$I_F=I_S, V_{GS}=0V$			1.2	V

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