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[IXKH70N60C5](#)

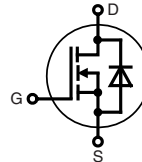
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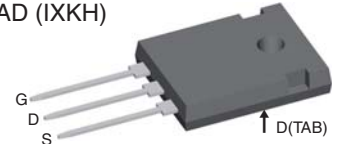
CoolMOS™ 1) Power MOSFET

N-Channel Enhancement Mode
 Low $R_{DS(on)}$, High V_{DSS} MOSFET
 Ultra low gate charge

I_{D25} = 70 A
 V_{DSS} = 600 V
 $R_{DS(on) max}$ = 0.045 Ω



TO-247 AD (IXKH)



MOSFET			
Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^{\circ}\text{C}$	600	V
V_{GS}		± 20	V
I_{D25}	$T_C = 25^{\circ}\text{C}$	70	A
I_{D90}	$T_C = 90^{\circ}\text{C}$	48	A
E_{AS}	single pulse } $I_D = 11 \text{ A}; T_C = 25^{\circ}\text{C}$ repetitive	1950	mJ
E_{AR}		3	mJ
dV/dt	MOSFET dV/dt ruggedness $V_{DS} = 0 \dots 480 \text{ V}$	50	V/ns

Features

- fast CoolMOS™ 1) power MOSFET 4th generation
- High blocking capability
- Lowest resistance
- Avalanche rated for unclamped inductive switching (UIS)
- Low thermal resistance due to reduced chip thickness
- Enhanced total power density

Applications

- Switched mode power supplies (SMPS)
- Uninterruptible power supplies (UPS)
- Power factor correction (PFC)
- Welding
- Inductive heating
- PDP and LCD adapter

1) CoolMOS™ is a trademark of Infineon Technologies AG.

Symbol	Conditions	Characteristic Values			
		(T _{VJ} = 25°C, unless otherwise specified)			
		min.	typ.	max.	
$R_{DS(on)}$	$V_{GS} = 10 \text{ V}; I_D = 44 \text{ A}$		40	45	m Ω
$V_{GS(th)}$	$V_{DS} = V_{GS}; I_D = 3 \text{ mA}$	2.5	3	3.5	V
I_{DSS}	$V_{DS} = 600 \text{ V}; V_{GS} = 0 \text{ V}$			10	μA
	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		50		μA
I_{GSS}	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			100	nA
C_{iss}	} $V_{GS} = 0 \text{ V}; V_{DS} = 100 \text{ V}$ $f = 1 \text{ MHz}$		6800		pF
C_{oss}				320	
Q_g	} $V_{GS} = 0 \text{ to } 10 \text{ V}; V_{DS} = 400 \text{ V}; I_D = 44 \text{ A}$		150	190	nC
Q_{gs}			35		nC
Q_{gd}			50		nC
$t_{d(on)}$	} $V_{GS} = 10 \text{ V}; V_{DS} = 400 \text{ V}$ $I_D = 44 \text{ A}; R_G = 3.3 \Omega$		30		ns
t_r			20		ns
$t_{d(off)}$			100		ns
t_f			10		ns
R_{thJC}				0.2	K/W



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Source-Drain Diode

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
(T _{VJ} = 25°C, unless otherwise specified)				
I _S	V _{GS} = 0 V		44	A
V _{SD}	I _F = 44 A; V _{GS} = 0 V		0.9	1.2
t _{rr}	I _F = 44 A; -di _F /dt = 100 A/μs; V _R = 400 V		600	ns
Q _{RM}			17	μC
I _{RM}			60	A

Component

Symbol	Conditions	Maximum Ratings	
T _{VJ}	operating	-55...+150	°C
T _{stg}		-55...+150	°C
M _d	mounting torque	0.8 ... 1.2	Nm

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
R _{thCH}	with heatsink compound		0.25	K/W
Weight			6	g

IXYS **IXKH 70N60C5**

TO-247 AD Outline

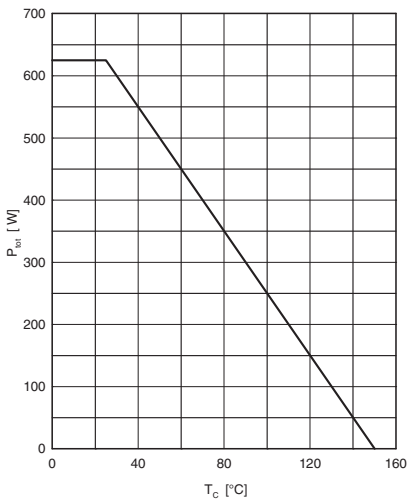
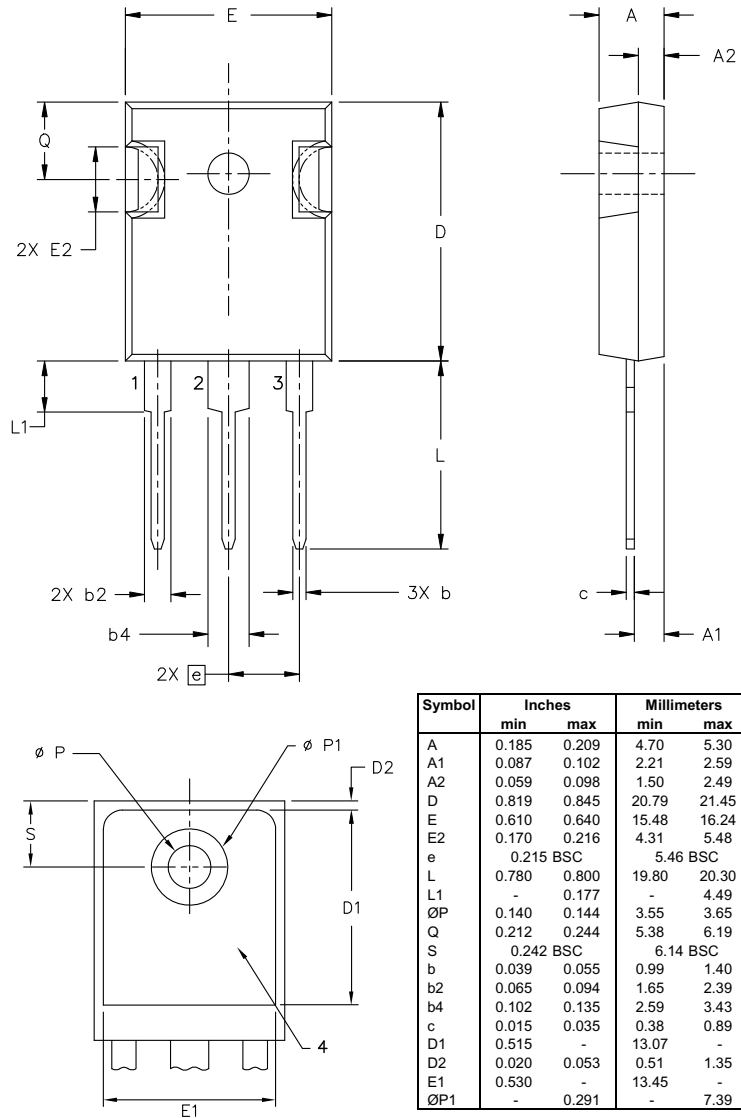


Fig. 1 Power dissipation

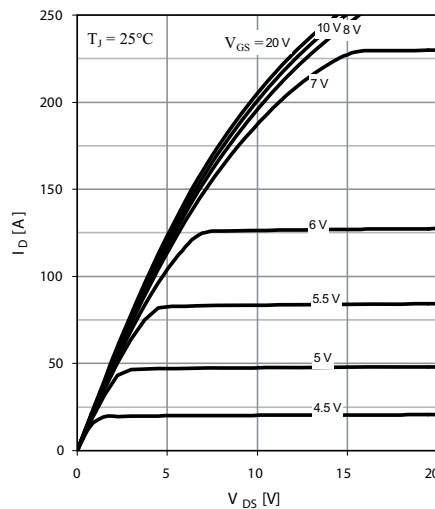


Fig. 2 Typ. output characteristics

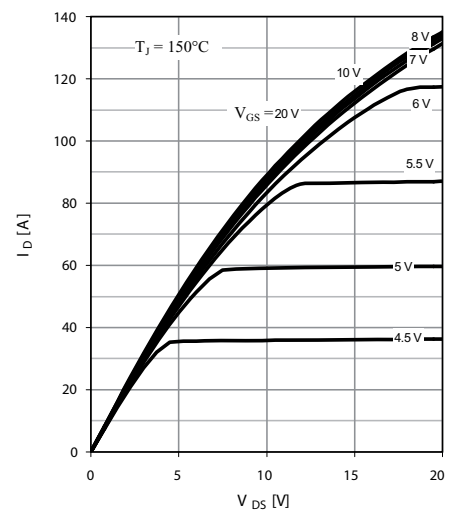


Fig. 3 Typ. output characteristics



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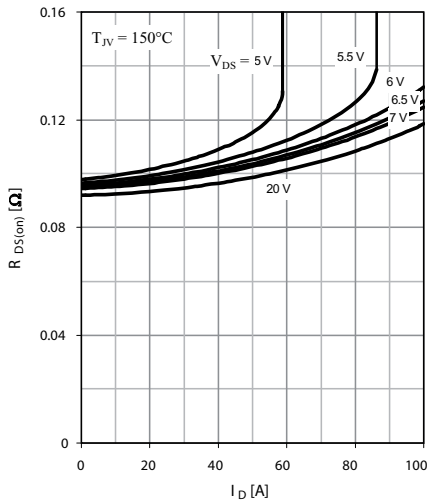


Fig. 4 Typ. drain-source on-state resistance characteristics of IGBT

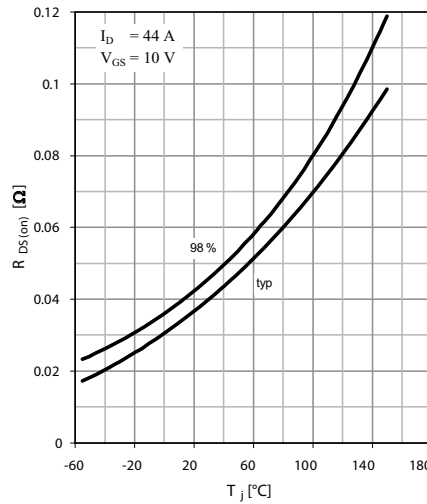


Fig. 5 Drain-source on-state resistance

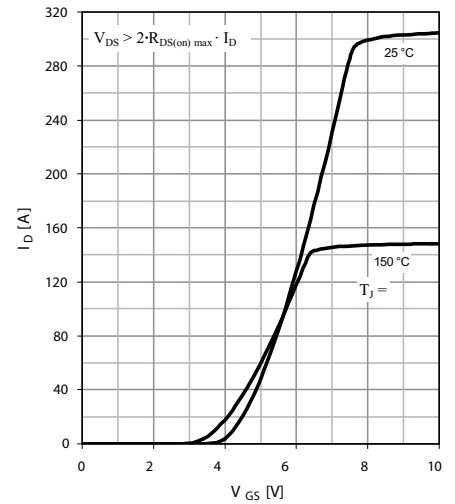


Fig. 6 Typ. transfer characteristics

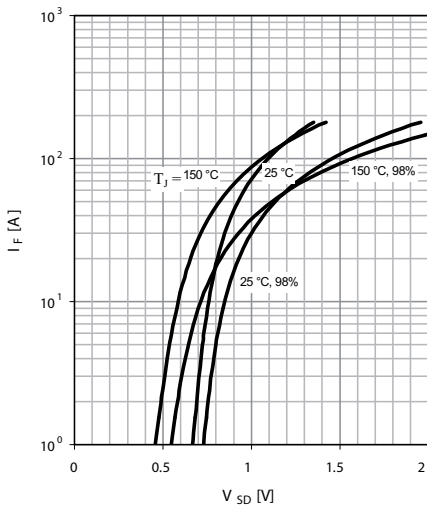


Fig. 7 Forward characteristic of reverse diode

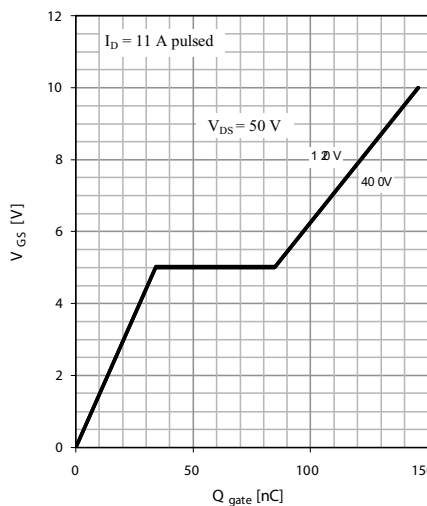


Fig. 8 Typ. gate charge

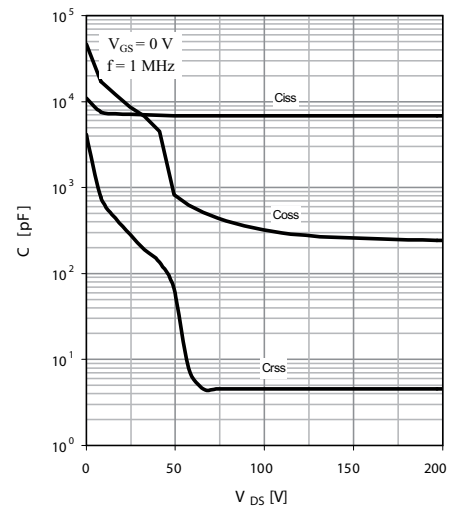


Fig. 9 Typ. capacitances

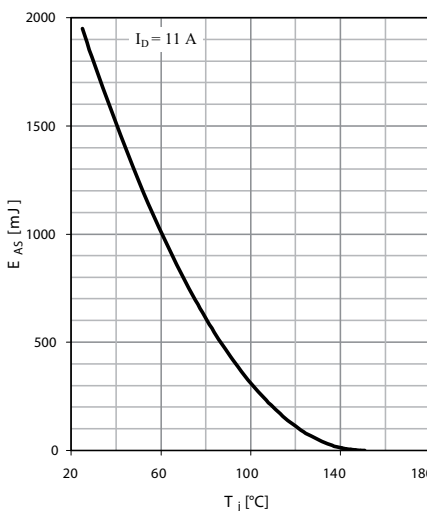


Fig. 10 Avalanche energy

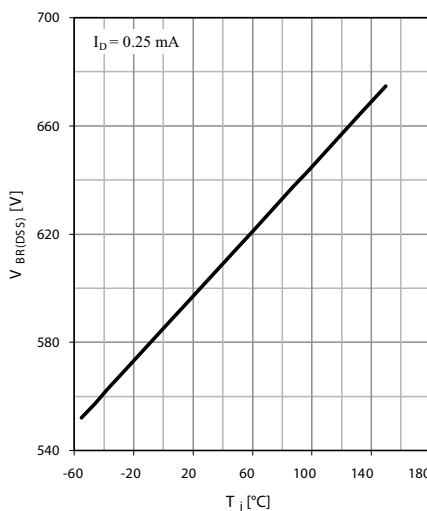


Fig. 11 Drain-source breakdown voltage

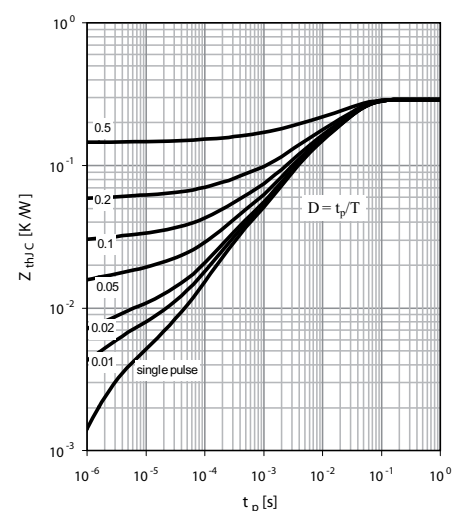


Fig. 12 Max. transient thermal impedance