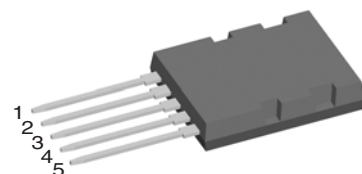
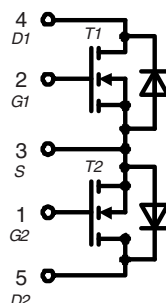


Dual CoolMOS™ 1) Power MOSFET

Common Source Topology
DCB isoated package

$$\begin{aligned} V_{DSS} &= 600 \text{ V} \\ I_{D25} &= 47 \text{ A} \\ R_{DS(on) \max} &= 45 \text{ m}\Omega/\text{MOSFET} \end{aligned}$$



MOSFET T1/T2

Symbol	Conditions	Maximum Ratings	
V_{DSS}	$T_{VJ} = 25^\circ\text{C}$	600	V
V_{D1D2}	$T_{VJ} = 25^\circ\text{C}$	±600	V
V_{GS}		±20	V
I_{D25}	$T_C = 25^\circ\text{C}$	47	A
I_{D90}	$T_C = 90^\circ\text{C}$	32	A
E_{AS}	single pulse	1950	mJ
E_{AR}	repetitive	3	mJ

$I_D = 11 \text{ A}; T_C = 25^\circ\text{C}$

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

- AC Switch
 - power regulation of AC heating
 - light dimming
- Power factor correction (PFC) interleaved operation mode
- Push pull converter

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

Symbol	Conditions	Characteristic Values ($T_{VJ} = 25^\circ\text{C}$, unless otherwise specified)		
		min.	typ.	max.
R_{DSon}	$V_{GS} = 10 \text{ V}; I_D = 44 \text{ A}$		40	45 mΩ
R_{DSon}	total between D1 and D2 $V_{G1S} = V_{G2S} = 10 \text{ V}; I_D = 44 \text{ A}$		80	mΩ
V_{GSth}	$V_{DS} = V_{GS}; I_D = 3 \text{ mA}$	2.5	3	3.5 V
I_{DSS}	$V_{DS} = V_{DSS}; V_{GS} = 0 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = 125^\circ\text{C}$		50	10 μA μA
I_{GSS}	$V_{GS} = \pm 20 \text{ V}; V_{DS} = 0 \text{ V}$			100 nA
C_{iss} C_{oss}	$V_{GS} = 0 \text{ V}; V_{DS} = 100 \text{ V}$ $f = 1 \text{ MHz}$		6800 320	pF pF
Q_g Q_{gs} Q_{gd}	$V_{GS} = 0 \text{ to } 10 \text{ V}; V_{DS} = 400 \text{ V}; I_D = 44 \text{ A}$		150 35 50	nC nC nC
$t_{d(on)}$ t_r $t_{d(off)}$ t_f	$V_{GS} = 10 \text{ V}; V_{DS} = 400 \text{ V};$ $I_D = 44 \text{ A}; R_G = 3.3 \Omega$		30 20 100 10	ns ns ns ns
R_{thJC} R_{thCH}	with heatsink compound		0.25	0.45 K/W K/W

Source-Drain Diode

Characteristic Values

($T_J = 25^\circ\text{C}$, unless otherwise specified)

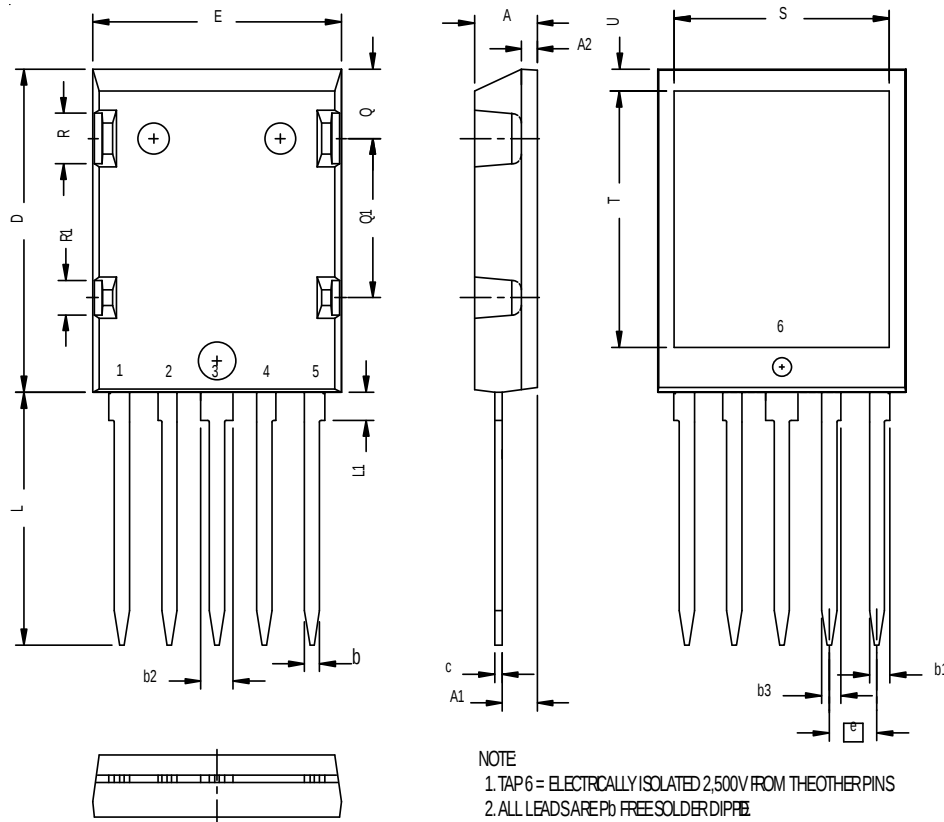
		min.	typ.	max.	
I_S	$V_{GS} = 0\text{ V}$			44	A
V_{SD}	$I_F = 44\text{ A}; V_{GS} = 0\text{ V}$		0.9	1.2	V
t_{rr}	$I_F = 44\text{ A}; -di/dt = 100\text{ A}/\mu\text{s}; V_R = 400\text{ V}$		600		ns
Q_{RM}			17		μC
I_{RM}			60		A

Component

Symbol	Conditions	Maximum Ratings
T_{VJ}		-55...+150 °C
T_{stg}		-55...+150 °C
V_{ISOL}	$I_{ISOL} \leq 1\text{ mA}; 50/60\text{ Hz}; t = 1\text{ min}$	2500 V~
F_c	Mounting force with clip	40 - 180 N

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
C_p	coupling capacity between shorted pins and mounting tab in the case		50	pF
d_S, d_A	pin - pin	tbd		mm
d_S, d_A	pin - backside metal	tbd		mm
Weight			10	g

ISOPLUS264



SYM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	.190	.205	4.83	5.21
A1	.102	.118	2.59	3.00
A2	.046	.055	1.17	1.40
b	.045	.055	1.14	1.40
b1	.063	.072	1.60	1.83
b2	.100	.110	2.54	2.78
b3	.058	.068	1.47	1.73
c	.020	.029	0.51	0.74
D	1.020	1.040	25.91	26.42
E	.770	.799	19.56	20.29
e	.150 BSC		3.81 BSC	
L	.780	.820	19.81	20.83
L1	.080	.102	2.03	2.59
Q	.210	.235	5.33	5.97
Q1	.490	.513	12.46	13.03
R	.150	.180	3.81	4.57
R1	.100	.130	2.54	3.30
S	.888	.890	16.97	17.53
T	.801	.821	20.34	20.85
U	.065	.080	1.65	2.03

All curves for single MOSFET T1 or T2 only

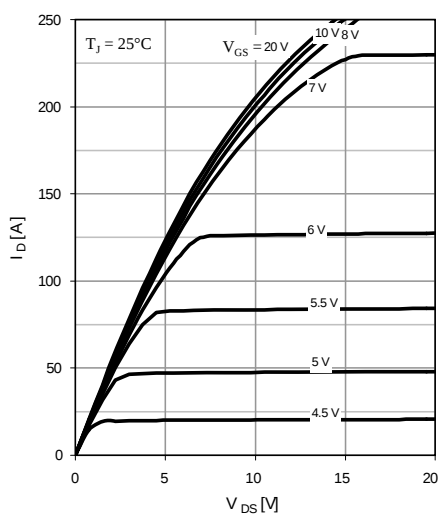


Fig. 1 Typ. output characteristics

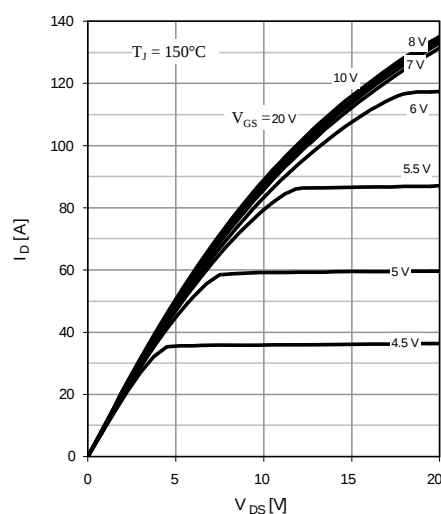


Fig. 2 Typ. output characteristics

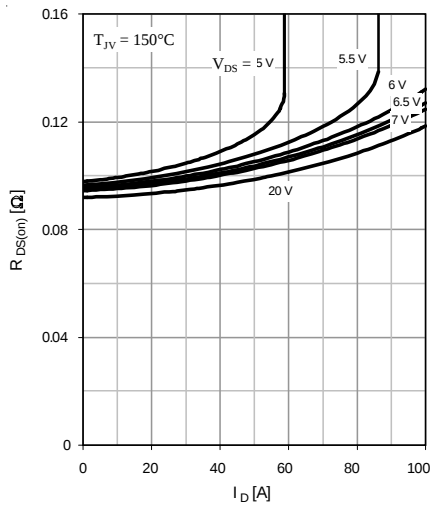


Fig. 3 Typ. drain-source on-state resistance

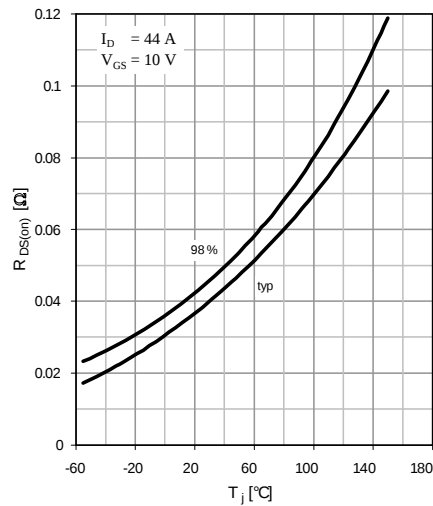


Fig. 4 Drain-source on-state resistance

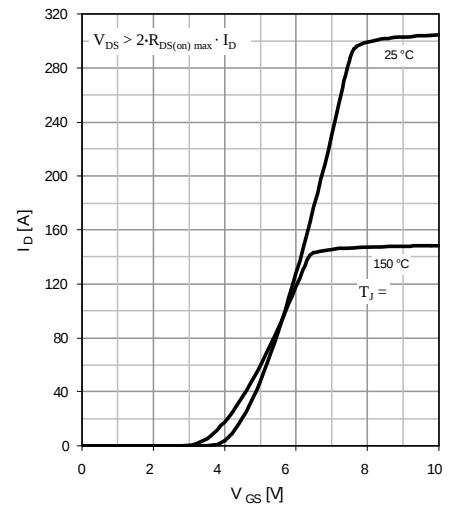


Fig. 5 Typ. transfer characteristics

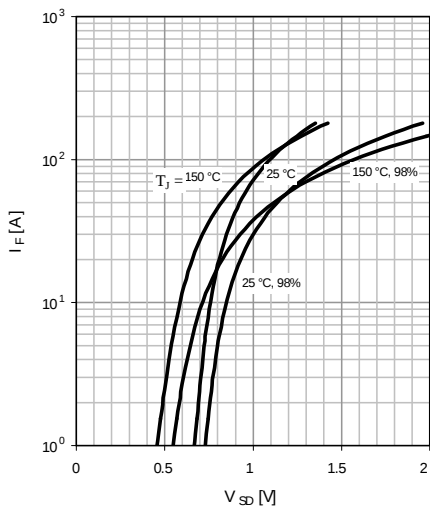


Fig. 6 Forward characteristic of reverse diode

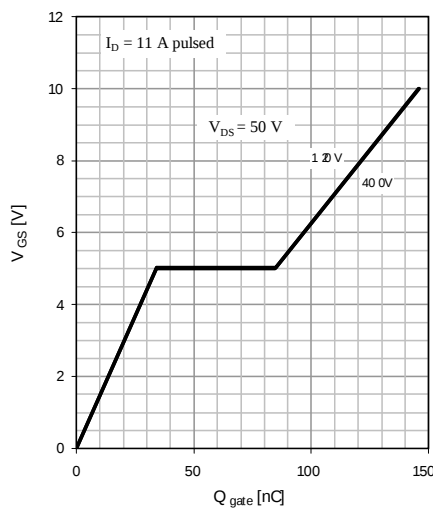


Fig. 7 Typ. gate charge

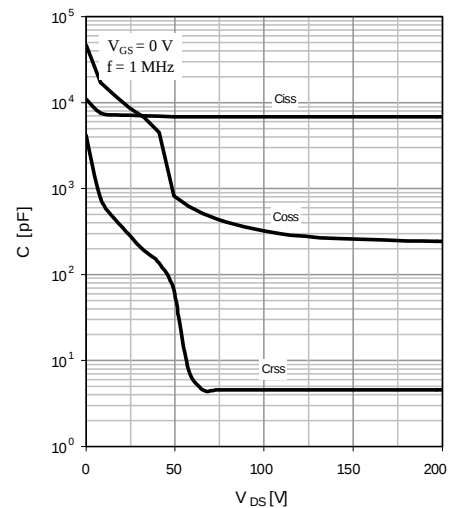


Fig. 8 Typ. capacitances

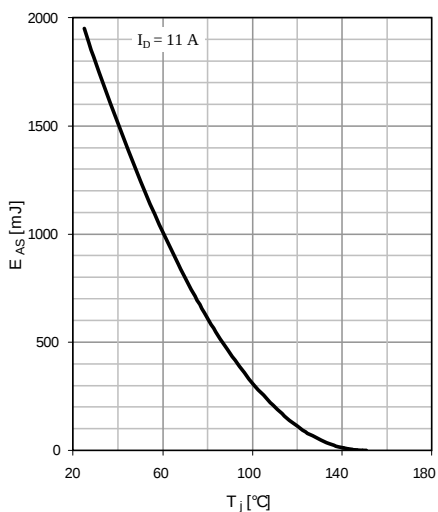


Fig. 9 Avalanche energy

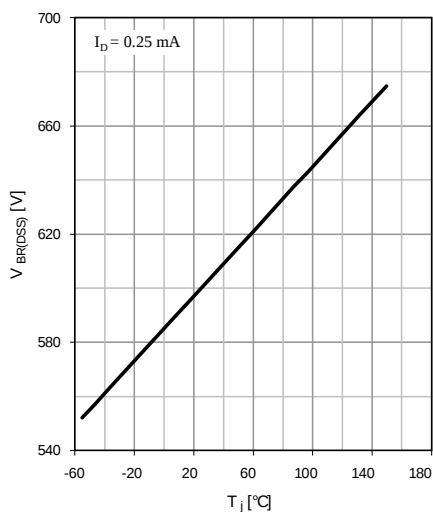


Fig. 10 Drain-source break-down voltage



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.