
IGBT A m
A a
650 V, 30 A
AFGHL30T65RQDN

Using novel field stop IGBT technology, **onsemi**'s new series of FS4 IGBTs offer the optimum performance for automotive applications. This technology is Short circuit rated and offers high figure of merit with low conduction and switching losses.

Features

AFGHL30T65RQDN

ELECTRICAL CHARACTERISTICS ($T_J = 25^\circ\text{C}$ unless otherwise noted) (Continued)

Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
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SWITCHING CHARACTERISTICS, INDUCTIVE LOAD

Turn-on Delay Time	$T_J = 175^\circ\text{C}$, $V_{CC} = 400\text{ V}$, $I_C = 15\text{ A}$, $R_G = 2.5\ \Omega$, $V_{GE} = 15\text{ V}$, Inductive Load	$t_{d(on)}$	-	18	-	ns
Rise Time		t_r	-	17	-	
Turn-off Delay Time		$t_{d(off)}$	-	83	-	
Fall Time		t_f	-	196	-	
Turn-on Switching Loss		E_{on}	-	0.53	-	mJ
Turn-off Switching Loss		E_{off}	-	0.69	-	
Total Switching Loss		E_{ts}	-	1.22	-	
Turn-on Delay Time	$T_J = 175^\circ\text{C}$, $V_{CC} = 400\text{ V}$, $I_C = 30\text{ A}$, $R_G = 2.5\ \Omega$, $V_{GE} = 15\text{ V}$, Inductive Load	$t_{d(on)}$	-	21	-	ns
Rise Time		t_r	-	37	-	
Turn-off Delay Time		$t_{d(off)}$	-	72	-	
Fall Time		t_f	-	164	-	
Turn-on Switching Loss		E_{on}	-	1.14	-	mJ
Turn-off Switching Loss		E_{off}	-	1.09	-	
Total Switching Loss		E_{ts}	-	2.23	-	

DIODE CHARACTERISTICS

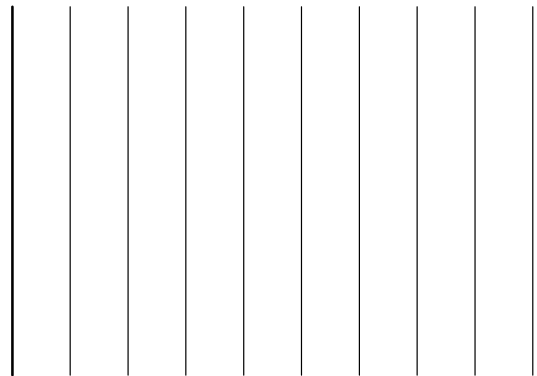
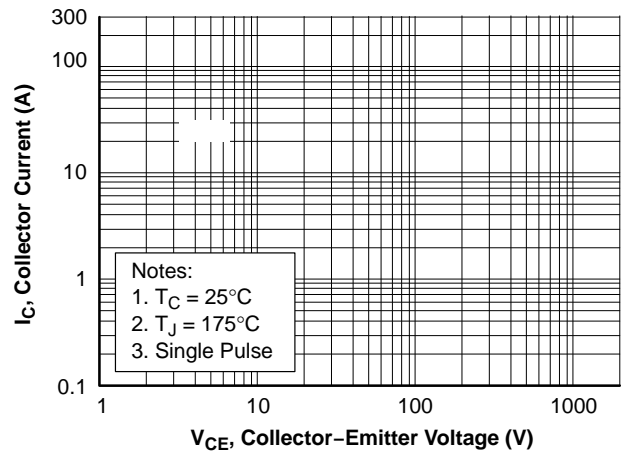
Diode Forward Voltage	$I_F = 30\text{ A}$, $T_J = 25^\circ\text{C}$	V_F	-	1.7	2.10	V
	$I_F = 30\text{ A}$, $T_J = 175^\circ\text{C}$		-	1.74	-	

DIODE SWITCHING CHARACTERISTICS, INDUCTIVE LOAD

Reverse Recovery Energy	$I_F = 30\text{ A}$, $di_F/dt = 1000\text{ A}/\mu\text{s}$ $V_R = 400\text{ V}$, $T_J = 25^\circ\text{C}$	E_{rec}	-	46	-
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TYPICAL CHARACTERISTICS (Continued)



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