

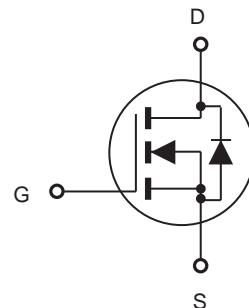
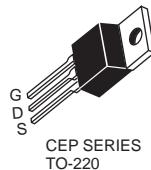
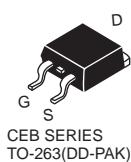


CEP51A3/CEB51A3

N-Channel Enhancement Mode Field Effect Transistor

FEATURES

- 30V, 48A, $R_{DS(ON)} = 16.5\text{m}\Omega$ @ $V_{GS} = 10\text{V}$.
- $R_{DS(ON)} = 28\text{m}\Omega$ @ $V_{GS} = 4.5\text{V}$.
- Super high dense cell design for extremely low $R_{DS(ON)}$.
- High power and current handing capability.
- Lead free product is acquired.
- TO-220 & TO-263 package.



ABSOLUTE MAXIMUM RATINGS

$T_C = 25^\circ\text{C}$ unless otherwise noted

Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current-Continuous	I_D	48	A
Drain Current-Pulsed ^a	I_{DM}	160	A
Maximum Power Dissipation @ $T_C = 25^\circ\text{C}$ - Derate above 25°C	P_D	70	W
		0.48	W/ $^\circ\text{C}$
Operating and Store Temperature Range	T_J, T_{stg}	-55 to 175	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Limit	Units
Thermal Resistance, Junction-to-Case	R_{JC}	2.1	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient	R_{JA}	62.5	$^\circ\text{C/W}$



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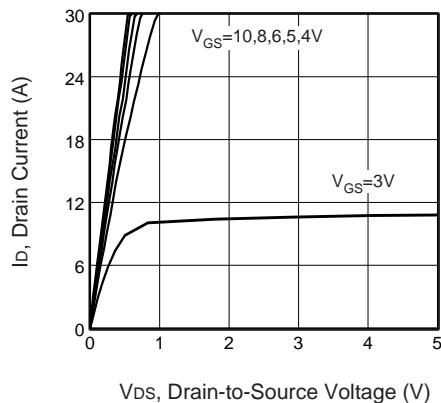


Figure 1. Output Characteristics

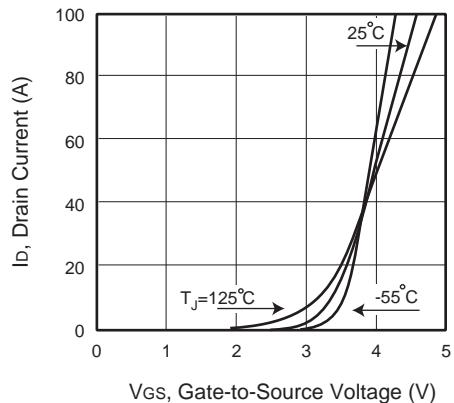


Figure 2. Transfer Characteristics

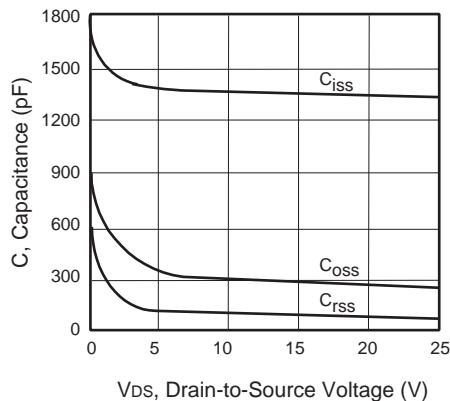


Figure 3. Capacitance

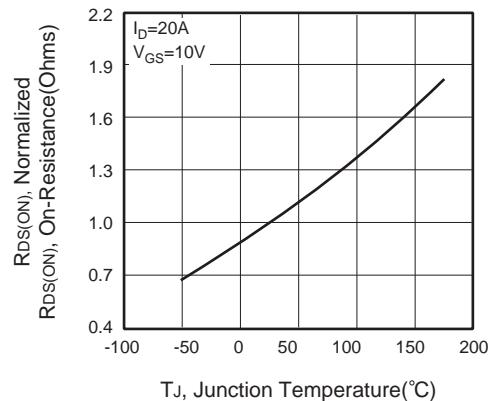


Figure 4. On-Resistance Variation with Temperature

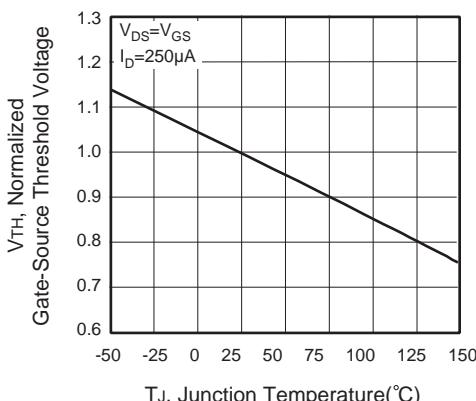


Figure 5. Gate Threshold Variation with Temperature

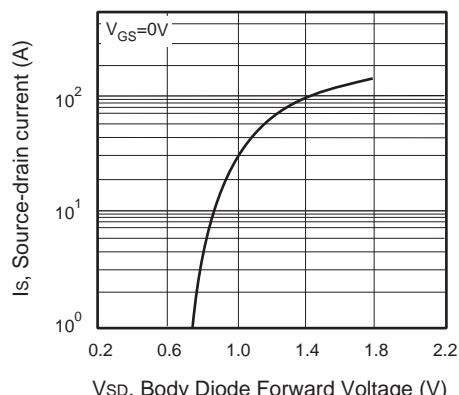


Figure 6. Body Diode Forward Voltage Variation with Source Current



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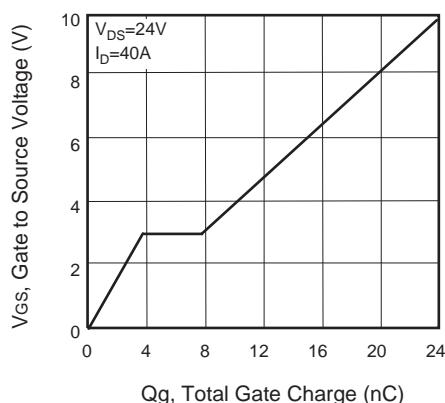


Figure 7. Gate Charge

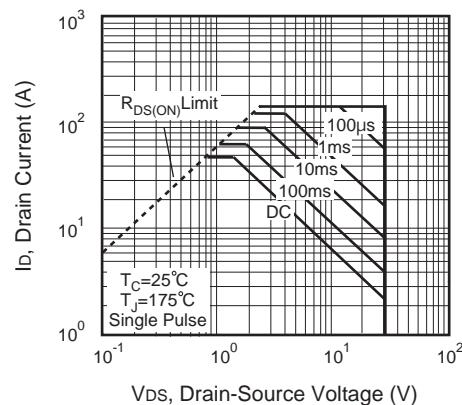


Figure 8. Maximum Safe Operating Area

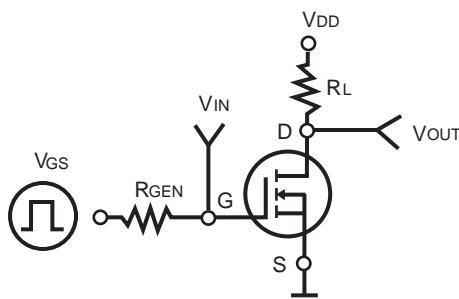


Figure 9. Switching Test Circuit

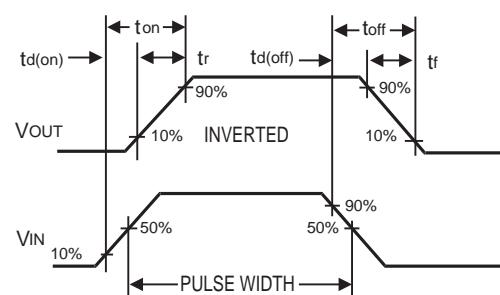


Figure 10. Switching Waveforms

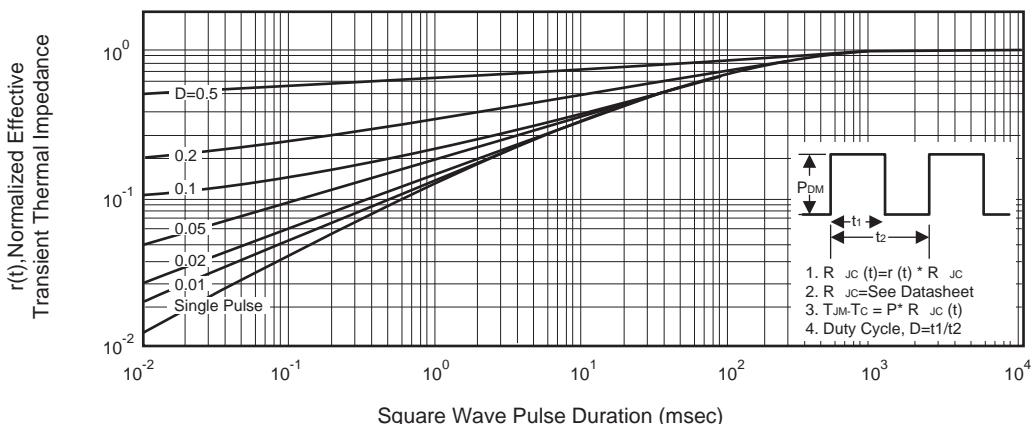


Figure 11. Normalized Thermal Transient Impedance Curve